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Editorial Notes

THE year 1953 has been, for us, a year of great achievements in mountaineering, aviation and sport, and our greatest man has been awarded the Nobel Prize for Literature. To these has now been added a comparable achievement in the world of pure scholarship—the decipherment by Mr Ventris of a hitherto unreadable script, called the Linear B script of Minoan Crete and the Mycenaean mainland. In their article on pages 233–7 Mr Ventris and his collaborator, Mr Chadwick, give an account of their work, and those who want to know more about it can do so by reading their longer article in the current *Journal of Hellenic Studies*. They themselves emphasize the provisional nature of their solution, and no doubt it will be improved upon as time goes on ; we are quite sure that it is on thoroughly sound lines and its reception by qualified students has been very favourable. It is clear that the language of the script was an early form of Greek, which survived as the dialect of Arcadia. The clay tablets recording it were first found by Sir Arthur Evans at Cnossos in Crete. Just before the last war Professor Blegen found several hundred in the Palace of Nestor at Pylos on the tip of the Greek mainland, and recently a few have been found by Professor Wace at Mycenae ; there are also a few *graffiti* from other mainland sites.

The Cretan tablets antedate the collapse of about 1400 B.C. when Cnossos was burnt and the political power of the Minoan dynasty ended. It now appears that the language of that dynasty was Greek ; in other words, that the Minos of tradition spoke Greek and his scribes wrote it. We still do not know when the Greek language was introduced into Crete ; long before the fall another script, some of whose signs resemble Egyptian hieroglyphs, was in use, and it is presumed that the language was not Greek. The script read by Mr Ventris (Linear B) contains some of the signs used in the earlier Cretan hieroglyphic script, and a few more of the Linear A script that developed from the hieroglyphic. If Linear B was a modification of A there is a fair probability that Greek was introduced into Crete about 1450 B.C.

The historical background revealed by archaeology conforms well to that which we can dimly perceive behind the traditions. They speak of Minoan sea-power, of a great craftsman Daedalus who escaped from Minos and flew to Sicily, to the court of King Cocalus, whose Chief Engineer he became, and of an expedition organized by Minos to recapture him, but ending in disaster. Minos was treacherously killed by Cocalus and

buried in a tomb which Theron of Acragas (Agrigento) discovered early in the 5th century B.C. This tomb was described by Diodorus Siculus, and it is clear that it closely resembled the famous Temple-tomb of Cnossos, dated about 1500 B.C. A 6th century inscription proves that the Daedalus-Cocalus tradition is ancient. No doubt it originated from the trading-stations in the west that were established by the Minoan dynasty before its fall.

On the Greek mainland powerful rivals of Minos were growing up, the chief of which was Mycenae, 'a citadel that commands a main artery of communications between the south-east and the north-west' (Childe, *Dawn*, p. 74). Though Mycenae was perhaps the most important, we must not overlook those others, possibly nearly or quite as important, whose extant archaeological remains are less evident; there was a Mycenaean wall round the Acropolis of Athens whose ruler Theseus traditionally destroyed the Cretan Minotaur about the middle of the 13th century, and Daedalus was an Athenian. These mainland chiefs became wealthy in the usual feudal way, and imported or attracted craftsmen from Crete to make weapons and tools and to decorate their palaces. They traded with distant lands in Central Europe and the far west, and it may have been through their agency that the famous segmented faience beads, dated about 1400 B.C., reached Spain, France, England and Central Europe. It was certainly at this time that the axe cult, so much in evidence in Crete and Brittany, reached Stonehenge. We shall have more to say about this in our next number.

Having eliminated Minos the Achaeans of Mycenae took over his overseas trade and trading-stations and founded new ones. The evidence is archaeological; whereas the evidence for the earlier (Minoan) colonization of Sicily is mainly historical. But the archaeological types reveal so strong a Minoan influence that on those grounds 'Evans suspected a Cretan colonization of the island under a Minoan prince' (Childe, *Dawn*, p. 232; quoting Evans, *Palace of Minos I*, 3). The earliest Aegean pottery found is certainly not Cretan and probably not of local manufacture; examples from Sicily may perhaps be of Rhodian origin, though 'a mainland (Argolid) origin is not to be excluded. These vases belong as a whole to the 14th century; many of them are difficult to date, and some may perhaps be later' (T. J. Dunbabin: 'Minos and Daidalos in Sicily', *Papers of the British School at Rome*, vol. XVI, 1948, p.3). Metapontion on the Gulf of Taranto is traditionally said to have been founded by the companions of Nestor of Pylos, and the wanderings of Odysseus 'may reflect Minoan voyages in the Western Mediterranean' (Dunbabin, loc. cit., p. 13). Eastwards the Mycenaeans must have come into contact with the Hittites; we surely need not hesitate to equate the Ahhiyawa of the Hittite inscriptions with the Achaeans (=Mycenaeans ?), and the occurrence of the word Akawija on a Cretan tablet supports the identification, as Mr Ventris has already pointed out. The king of the Ahhiyawa was sufficiently important in the 13th century to be mentioned with the kings of Egypt, Babylon and Assyria, as one of the great powers of the times (O. R. Gurney, in *The Hittites*, Penguin, p. 50). There was a Mycenaean settlement at Enkomi near Famagusta in Cyprus, and a palace was built there about 1350 B.C. (see also pp. 233–7 below). There were Mycenaean trading-stations on the Syrian coast, and others will probably be found on the southern shores of Anatolia, especially of the Gulf of Adalia, when that region is explored by field-archaeologists.

The eastward expansion was probably made possible by the destruction of Cretan sea-power. Later, about 1200 B.C. came the great sea-raids on Egypt, and last of all the Trojan War. Troy barred the way to the Black Sea round whose shores was so much raw material. The Argonauts slipped through on what may have been a preliminary, but very profitable, reconnaissance. Heracles had an encounter with Priam's father Laomedon, and the walls of Apollo which he attacked may have been identified by Greek folk-tradition with those of the Sixth City, fully described in Prof. Blegen's last volume (*Troy III*, Princeton Univ.). The Achaeans under Agamemnon decided to remove the obstacle once and for all, thinking no doubt that they were the first to whom such an idea had occurred. The traditional date of the Trojan War is 1194–84 B.C. and it has stood up to the test of modern discoveries very well. It would, however, be premature to express any but a guarded opinion until Blegen's fourth and last volume appears, dealing with the Homeric cities.

Some elements of the Linear B script were incorporated in the script of Cyprus. The longest text in Cypro-Minoan is the one published for the first time in the present number of ANTIQUITY (pp. 233–7), found by Mr Dikaios in the Mycenaean city of Enkomi. The script cannot yet be read, nor is it known in what language it is written ; a prime condition of deciphering it is the discovery of a large number of tablets, so that experiments and comparisons may become possible. There would seem to be a fairly good chance of this happening, and one would like to congratulate the discoverers of this highly important object, and to wish them the luck of finding more.

In his note Mr Dikaios refers to the discovery nearby in 1948 of a ' remarkable bronze statue of a male god wearing a headdress adorned with bull's horns '. In his *Archaeology of Crete* (1939, p. 231) Pendlebury says of the ruler of Cnossos : ' Dare we believe that he wore the masque of a bull ? ' In other words, that Minos was himself the Minotaur—the priest-king slain by Theseus. The discovery of just such a representation as Pendlebury imagined on a Mycenaean site of the right date is an answer to Pendlebury's daring question, even though it comes not from Crete but from Cyprus.

In conclusion one may attempt to assess the present position and future prospects. There exist many hundreds of Linear B tablets, consisting mostly of inventories and with little consecutive text ; and there is one tablet in a kindred but unreadable script that may be a poem ; we can read the one and not the other. In spite of all the excavation that has been done in Crete and Greece nothing comparable to the Hittite and other archives has been found ; but in Crete the Phaistos disc, in Linear A, seems to have refrains and therefore to be metrical or poetical. It is dated about 1600 B.C., and an Anatolian connection has been suggested. Valuable though even such inventories are, archives with consecutive texts would be much more so. For the immediate future we want more of the Cypro-Minoan script, so as to be able to try and decipher it. For the rest, a field survey of the Anatolian coastal sites to the north might be made, in the hope of finding Mycenaean potsherds and thus pointing the way to the future excavation.

Greek Records in the Minoan Script

by John Chadwick

IT was in July 1952 that Mr Michael Ventris announced his solution of the fifty-year-old puzzle of the Minoan Linear B script.* The announcement was at first received with proper scepticism, for many 'solutions' had already been published, none of which had proved convincing upon closer inspection. Most of them had been based upon quite inadequate collections of material, for it was not until the spring of 1952 that all the inscriptions in that script then known were published. Mr Ventris' theory, the first to be built upon broad enough foundations, has now withstood more than a year's testing, and its essential correctness has been vindicated by its successful application to new and unpublished material. Mr Ventris has generously made his work available to interested scholars, and an international group is now collaborating with him in pressing forward the decipherment of the tablets along the lines he has laid down. Although much remains to be done, the basis of the solution is no longer in doubt, and we can now offer a preliminary summary of the results of this remarkable discovery[1].

The Linear B script, first found by Sir Arthur Evans in the Late Minoan II Palace at Knossos, is now known also from a number of sites on the Mainland. Clay tablets written in this script have been found at Pylos in Messenia and at Mycenae; and inscribed jars have come from Thebes, Orchomenos, Eleusis and Tiryns. There is thus little doubt that the script represents the general idiom of Mycenaean Greece, and that it is distinct from the similar and related Linear A found only in earlier Minoan sites in Crete and the neighbouring islands: this still remains a mystery, and may be conjectured to conceal the pre-Greek language of Crete. Linear B is now clearly revealed as the earliest written form of the Greek language. The first result of the solution is therefore to confirm what Professor Wace and other archaeologists have long suspected[2], that the Palace of Knossos in L.M. II is closely associated with the contemporary Mycenaean remains of the Mainland and represents one of the earliest appearances of the Hellenic race as a cultural force. We can now say definitely that an archaic form of Greek was the language used in the Palace at Knossos *c.* 1400 B.C., at Pylos *c.* 1200 B.C. and at Mycenae *c.* 1275 B.C.

It is unfortunate from many points of view that the system of writing adopted by the Greeks of the Mycenaean period was exceedingly clumsy. It is hardly conceivable that such a system should have been devised originally for the Greek language, and this again lends weight to the supposition that Linear B is an adaptation for Greek of a system devised for another language and represented by Linear A. The script is a simple form of syllabary based upon the five vowels (*a e i o u*) and some 12 consonants combined with each of these vowels. There are a few signs with two consonants plus vowel; and there remain a number of rarer signs for which it has so far proved impossible to suggest a phonetic value: indeed their solution demands more examples, and these we hope to

*A historical account of the decipherment, written by Mr R. D. Barnett, with an illustration of the tablets, was published in the *Manchester Guardian*, Sept. 30. Ed.

[1] A detailed presentation of this theory will be found in Ventris and Chadwick: 'Evidence for Greek Dialect in the Mycenaean Archives, *Journal of Hellenic Studies* LXXIII (1953), pp. 84–103.

[2] See Wace: 'The Discovery of Inscribed Clay Tablets at Mycenae', Antiquity, June 1953, pp. 84–6.

obtain from the new finds at Pylos. But all the more frequent ones have been identified, and it is now possible with few blanks to make a phonetic transcription of the tablets. The task of interpretation, however, is then only begun. Although the words are divided, the system of orthography is so clumsy that each syllable may be read in a number of different ways, so that the Greek word intended is often hard to guess. The spelling system, however, for all its ambiguity is extremely consistent, and there appear to be closely defined rules governing the choice of signs to represent a given word. Thus the same word shows very little variation in spelling between different texts, though one spelling may on occasion represent two different words.

Interpretation is further hampered by another factor. The vocabulary of Mycenaean Greek is, naturally enough, very different from anything known in classical times ; it is, for instance, hardly surprising that the technical terms for parts of the war-chariot which appear on the Knossos tablets should remain undeciphered, for the words must have become obsolete together with the chariot itself, long before our earliest texts. Even familiar words appear in an unfamiliar guise, often most nearly resembling Homeric forms. Comparative etymology has helped to solve some problems presented by these words, and the decipherment in turn is now contributing to the solution of some linguistic problems.

The character of the Mycenaean dialect as revealed by the decipherment is another satisfactory aspect of this theory, for it agrees closely with predictions made long ago. In historical times Arcadia in the mountainous centre of the Peloponnese formed a linguistic enclave with an East Greek dialect, completely surrounded by West Greek (or Doric) dialects. As the Dorians were the last arrivals in Southern Greece, it seemed reasonable to suppose that Arcadian had at one time covered most of the Peloponnese, and confirmation that it reached the coast was provided by the existence of a very similar dialect in Cyprus. Since Cyprus was colonized in Mycenaean times, it seemed likely that Arcadian and Cyprian were the descendants of the Mycenaean Greek dialect, and this can now be regarded as certain. The Mycenaean dialect seems to have varied very little over a period of 200 years and as between Knossos, Pylos and Mycenae. The vase inscriptions are not by any means clear, but it is certain that they show Greek words of a similar type to that of the tablets.

An even more serious obstacle to satisfactory interpretation lies in the form of the tablets themselves and the fact that few have survived whole and undamaged. They are almost without exception lists of persons and places. The texts are in the nature of book-keeping entries, and their exact significance depends often upon a knowledge of the transaction involved. Further complications are introduced by the frequent use of abbreviations.

There is fortunately one helpful feature : the use, alongside the syllabic spelling, of pictorial signs or ideograms. Many of these are self-evident and picture accurately the object they represent : in this category come MAN, WOMAN, HORSE, PIG, CHARIOT, WHEEL, CUIRASS, CUP, etc. Others are not so easily recognizable, but their meaning has been deduced from the context. Others again remain at present obscure, though we may hope with further study to elucidate most of them. We are also helped by the numerical system, which is a clear and simple decimal notation. The system of weights and measures, like our $1 \times 20 \times 12$ for sterling, is based on miscellaneous ratios: $1 \times 30 \times 4 \times 12$? for weights, $1 \times 3 \times 6 \times 4$ for liquids, and $1 \times 10 \times 6 \times 4$ for solids[3].

[3] See Bennett, ' Fractional Quantities in Minoan Book-keeping ', *American Journal of Archaeology* LIV (1950), pp. 204–22. The ' wet ' ratios revised in the light of Mycenae Fo 101 (letter 20.6.53).

It was therefore possible even before the script was readable to make a rough guess at the contents of the archives, and in a few cases the text can be shown to agree in detail with the ideograms employed. The decipherment is still far from complete, but it has brought no surprises as far as the contents of the tablets are concerned. There are no histories, no letters, no decrees, no literature. We have only some scraps, often fragmentary, recording the day-to-day activities of the households concerned. Since the archives from Knossos and Pylos are of royal households we may hope to deduce from them something of the extent and administration of these kingdoms ; and the frequent practice of adding to a man's name his trade or profession enables us to form a rough picture of the social organization of a Mycenaean kingdom.

The classes into which the tablets may be divided on a rough classification are as follows :

(a) RECORDS OF MEN AND WOMEN, usually associated with a place, or assigned to various places. Thus a tablet may for instance record the number of persons in various trades living at a certain place ; or it may specify how many rowers each of a number of places is to provide for an expedition ; or how many masons are being sent to each place. These lists often record the person by name, and many consist of little but a string of names.

(b) RECORDS OF CATTLE : a large and very various class, usually recording the place, the owner or supplier, and the sex and other particulars of the animals (HORSES, OXEN, SHEEP, GOATS and PIGS). In a few cases the oxen are even given names such as Darkie, Dapple and Whitefoot.

(c) RECORDS OF MATERIALS OR EQUIPMENT in stock or to be supplied. These include cloth, wool, bronze, cups, amphorae and ivory. An important subdivision is the armoury records containing chariots, wheels, swords, spears, arrows and armour.

(d) RECORDS OF WORK : these seem to indicate the amount of raw material issued to craftsmen to work on. The clearest example is a series from Pylos (Jn01 ff) which lists the smiths by name and the amount of bronze issued to each ; there follows a list of the smiths who are unemployed.

(e) RECORDS OF AGRICULTURAL PRODUCE : these are particularly hard to interpret and it is not yet clear whether they record amounts contributed or disbursed—a point which might seem too obvious to the writer to need mention. One group seems to relate to seed corn. Other products mentioned by name are honey, spices, figs, olives and possibly wine and oil.

(f) RECORDS OF OFFERINGS : this seems to be the explanation of a number of tablets on which the names of deities are associated with such objects as a jar of honey.

One of the most remarkable discoveries, derived from tablets of class (f), has been the proof that the Olympian gods were worshipped at Knossos. The Greeks even at this date had the same gods as in later times. A broken tablet records the names of four : Athena, Enyalios (Ares), Paian (Apollo) and Poseidon. The first of these has the epithet *potnia*, reminiscent of Homer's ' Lady Athena ' ; in other places *Potnia* occurs alone, apparently as the name of a goddess. Another offering tablet from Knossos mentions Eleuthia (Eileithyia) in connection with Amnisos, where she had a famous cave[4] ; and there are frequent references to offerings ' to all the gods '. Pylos adds to the list the

[4] *Odyssey*, XIX, 188.

names of Zeus, Hera, Hermes and Dionysos. The last is a particularly happy confirmation of the antiquity of his cult in Greece.

The administration is represented by references to the *wanax* or ' king ' and to another official called *lawagetas* or ' leader of the people '. Each of these has craftsmen of different kinds assigned to him personally, and a Pylos tablet records a *temenos* of agricultural land which each of them holds. Their household includes heralds and messengers. Religion is in the hands of priests and priestesses, and a variety of officials with names such as ' key-bearers ' are possibly religious.

The trade names interpreted so far are enough to show that the division of labour was pushed to extremes not to be expected in a primitive society. The scant attention that Homer pays to craftsmen is understandable in view of his audience, but the excellence of Mycenaean art clearly demands more than occasional skill. When Homer speaks of Odysseus making a boat or a bed, this must be to emphasize his extraordinary versatility—a prince was not expected to be his own shipwright and carpenter. The following is a list of some of the trades so far identified : physician, baker, cook, carpenter, shipwright, mason, smith, goldsmith, bow-maker, fuller, potter, tailor, cow-herd, goat-herd, shepherd, wood-cutter, huntsman. Women's trades include : grain-keeper, bath-attendant, headband-maker, seamstress. The persons named include a fair number of *slaves*, but it is impossible to say what degree of subjection the word implies. Some are specifically called ' slave of the god ', which might indicate quite an exalted station in society.

Another interesting series of words are those describing the materials in use. Among the metals we find gold, silver (used as binding on chariot wheels), and bronze (which in one case is being made into arrow-heads and spear-blades) ; there is no mention yet of iron, but with such fragmentary material no deductions can be drawn from silence. The timbers mentioned are : wild-fig-wood, elm, willow and cypress. Ivory is used for certain parts of chariots ; other parts are made of horn. We have a mention of purple, and other words seem to indicate red pigments.

The extent of the Knossian kingdom is indicated by the place names occurring on the tablets. Many words can by their context be identified as place names, but do not appear to correspond to any known Cretan towns ; if we knew the names of all Crete's hundred cities, our task here would be easier. Among those which are clear are : Knossos, its port Amnisos, Tylissos, Lyktos (Lyttos) ; Kydonia in the west ; Phaistos and Inatos in the south ; Lato and perhaps Itanos in the east. This seems to imply that Knossos exercised some sort of dominion over the whole island. On the other hand there is so far little trace of place names outside Crete, if we exclude a mention of ' Cyprian ' which recurs at Pylos—perhaps the origin of some merchandise, if indeed the word has anything to do with the island. There is a possible mention of *Achaiwia* (Achaea) which recalls Hittite Aḫḫijawā.

At Pylos the place names are even more difficult to locate, for our knowledge of the geography of Western Messenia in antiquity is very scanty. The frequency with which the name *Pylos* itself appears, and its position at the head of lists, should do something to settle the controversy over the location of the Homeric Pylos ; though there is no proof that the most frequent name is necessarily that of the site where the tablets were found. Of the other names *Rhion* (' the Promontory ') is known to be a name of Asine ; *Leuktron* may be the town usually called Leuktra on the borders of Messenia and Laconia ; *Lousoi* may be the place of that name in Southern Arcadia. It is less certain if *Erchomenos* is the Arcadian Orchomenos. The name *Charadros* (' the Gully ') is a common one, and *Metapa* is known elsewhere.

The study of the abundant personal names is beset with grave difficulties. In the case of a vocabulary word a possible identification can be tested by consideration of the contexts in which it occurs ; with names no such check is possible and we must be guided simply by probabilities. It is certainly surprising to find names which can be read as Hector and Achilles (but not Nestor or Minos). Other familiar or transparently Greek names include : Amphialos, Astyochos, Echemedes, Eudamos, Euryptolemos, Glaukos, Pyrrhos, Theseus, Tripodiskos, Xanthos ; Idomeneia, Iphimedeia ; also Etewokleweios, the patronymic adjective of Eteokles.

Many of the personal names have a foreign aspect, as indeed have a large proportion of those known from the early alphabetic Greek inscriptions. No doubt there was a considerable mixture of populations, and the non-Hellenic element must surely have been much greater in Mycenaean times. There are probably vocabulary words too from non-Greek sources, which may prove impossible to interpret. But the evidence so far suggests that they are not numerous, and some of the newcomers to the vocabulary have proved to be native Greek compounds but hitherto not recorded in our texts.

A great deal remains to be done, but this summary will serve to show that already good progress has been made ; the complete elucidation will follow in time if sufficient additional material becomes available. Professor Blegen is still working at Pylos, and Professor Wace has returned to Mycenae : we look forward with keen anticipation to the results of their labours.

A Note on Decipherment Methods

by Michael Ventris

Since 1802, when Grotefend first correctly read part of the Old Persian syllabary, the basic techniques necessary to a successful decipherment have been tested and developed on many other initially unreadable scripts. Each operation needs to be planned in three phases : an exhaustive *analysis* of the signs, words and contexts in all the available inscriptions, designed to extract every possible clue as to the spelling system, meaning and language structure ; an experimental *substitution* of phonetic values to give possible words and inflections in a known or postulated language ; and a decisive *check*, preferably with the aid of virgin material, to ensure that the apparent results are not due to fantasy, coincidence or circular reasoning.

Prerequisites are that the material should be large enough for the analysis to yield usable results, and (in the case of an unreadable script without bilinguals or identifiable proper names) that the concealed language should be related to one which we already know. Until very recently both these conditions seemed to be lacking in the case of ' Minoan ' Linear Script B. When the existing Pylos and Knossos tablets were published in 1951–2, serious attempts at analysis and substitution could at last be undertaken.

The typical appearance and arrangement of a Linear B tablet are shown by Mycenae Au 102[5]. *Ideograms* and numbers at the end of each line list ' 1 MAN ', ' 2 MEN ' or ' 3 MEN ' : these ideograms are used solely to record the actual commodities counted on inventories, and do not occur within sentences (and therefore not at all, one must suppose,

[5] Photograph in Antiquity, June 1953, p. 85. For permission to illustrate this tablet I am indebted to Professor Wace and to Dr Bennett, whose edition of the Mycenae tablets is appearing in the *Proceedings of the American Philosophical Society*. The ideogram and numerals filling the break in the last line are my own conjectural restoration ; we now regard the tablet as a nominal roll of *bakers*.

in the Mycenaean literary texts of which no trace survives). The preceding words, on the other hand, are written with *phonetic signs*, of which there are at least 88 : this number (too large for an alphabet) and the range of word-length (1–8 signs) are generally taken to indicate a syllabary, whose signs have a similar function to the later Cypriot (e.g. *po-to-li-se* = Greek *ptolis* ' city ') or the Hittite hieroglyphs (e.g. *Kar-ka-mi-si* = ' Carchemish '). These introductory words on Au 102 are men's names, either of the MEN themselves or of their overseers, and some of them actually recur at Pylos and at Knossos on nominal rolls.

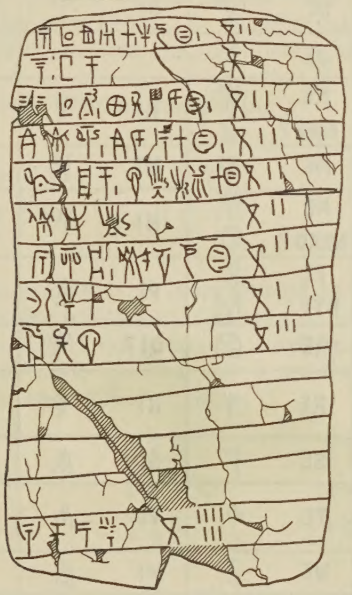


FIG. 1. TABLET Au 102, FOUND BY PROFESSOR A. J. B. WACE IN 'THE 'HOUSE OF THE OIL MERCHANT' AT MYCENAE IN 1952

Before this tablet was found in 1952, I had already deduced from Pylos that the button-shaped sign (end of second word, lines 1 3 4 5 7) is used with the meaning of an enclitic ' and ', occurring here where there are two names on the line : ' So-and-so *and* What's-his-name '. If, as Persson suggested in 1932, the language of the script was Greek, then one might be reminded of the Greek *-te* (= Latin *-que*), though many languages unrelated to Greek also express ' and ' by an enclitic tacked on in this way.

The last entry, at the bottom of the tablet, probably totals the number of MEN, the 4-letter word being one of a large series of terms which describe different *trades* at Pylos.

The syllabic nature of the spelling, and the system of ideograms and numerals, were long ago recognized during the earliest discussion of the tablets, and without fixing the pronunciation of any of the signs. Evans and others were also able to suggest meanings for a few of the phonetically-written words on the tablets, thanks to the recognizable contexts in which they occur : ' colts ', ' boys ', ' girls ', ' younger ', ' older ', ' swords ', ' total ', ' slave '. But half a dozen words are not a safe basis on which to begin to allot

phonetic values, without some knowledge of the apparent grammatical structure of the language, or of the relative frequencies and inter-relationships of the phonetic signs with which it is written.

CONSONANT	VOWEL 1	VOWEL 2	VOWEL 3	VOWEL 4	VOWEL 5
(H-)	A AI	E	I	O	U
D-	DA	DE	DI	DO	DU
J-	JA	JE		JO	
K- G- CH-	KA	KE KWE?	KI	KO	KU
M-	MA	ME	MI	MO	
N-	NA NWA?	NE NEKO?	NI	NO	NU
P- B- PH-	PA	PE PTE	PI	PO	PU
QU- GU-		QE	QI?	QO	
R- L-	RA RJA	RE	RI	RO RJO	RU
S-	SA	SE	SI	SO	SU
T- TH-	TA TJA?	TE	TI	TO	TU
W-	WA	WE	WI	WO	
Z-		ZE		ZO	ZU?

FIG. 2. SYLLABIC GRID SHOWING SUGGESTED PHONETIC VALUES FOR 68 OF THE 88 SIGNS OF THE LINEAR B SYSTEM

Once the values of a syllabary are known, its signs can be most conveniently set out in the form of a chequerboard ' grid ' (FIG. 2), on which the vertical columns each contain a single vowel, the horizontal lines a single consonant. A vital part of the analysis consisted in arranging the signs as far as possible in their correct pattern *before* any phonetic values were tried out : this was made possible by clear evidence that certain groups of signs shared the same vowel (e.g. *no ro to*), others the same consonant (e.g. *wa we wi wo*).

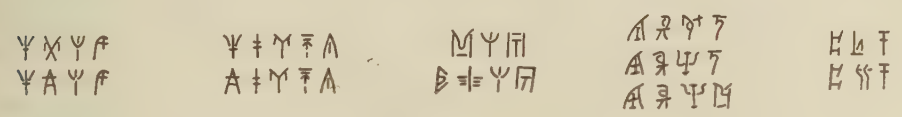
There were several pairs of spellings, for instance, which alternated in such a way as to suggest masculine and feminine forms of the same word (' child ', ' total ', ' slave ', etc.) :

masculine :
feminine :

It is a reasonable assumption that the stem of each pair of words is the same, but that it is varied by a masculine and a feminine ending, as for example in Italian : *bam-bi-NO / bam-bi-NA*, *tut-TO / tut-TA* etc. The fact that the Linear B language shows gender in this way is an interesting indication : it is characteristic of many Indo-European languages, though not, for example, of English, Danish, Hittite or Lycian ; it is also found in some languages unrelated to them.

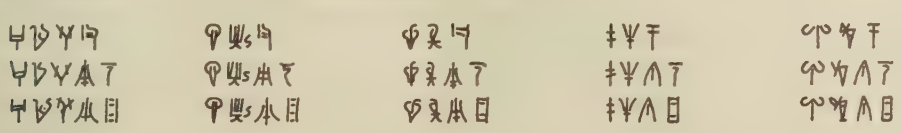
Each pair of final signs could be put tentatively on the same horizontal line of the ' grid ', as sharing the same consonant. The endings of the masculine terms could be arranged on the same vertical column as sharing the same vowel (No. 4 on FIG. 2), the feminine endings under another vowel (No. 1). Similar pairs of words, found on tablets in other contexts and with other functions, enabled other columns of the ' grid ' to be filled up.

Some words show random variations in spelling :

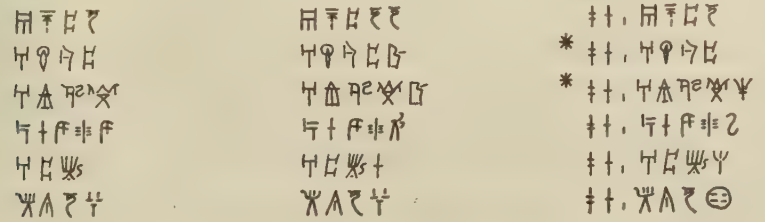


Since these occur in identical sentences, it is reasonable to assume that the signs which alternate must represent syllables which sounded very much alike.

Dr Kober was the first to detect the presence of inflectional endings on the Knossos tablets (AJA L 1946 p. 274). She pointed out a consistent series of words which recur in different contexts in three different forms :



It will be seen that the endings added to the two longer members of each group cause a change in the spelling of the last syllable of the shorter word : here was another piece of evidence for the ' grid '. She thought that these ' triplets ' represented three different case-forms of the same nouns ; but the newer Pylos tablets show that noun inflections actually followed a different pattern. They include a large group of texts on which some men's names can be seen to recur in different phrases in three different cases. The oblique cases are formed from the nominative by various kinds of change in the spelling, which evidently correspond to 5 or 6 different patterns of declension :



All the Linear B men's names (and masculine vocabulary words as well) could be shown to correspond to one or other of these patterns, which appeared to be determined mainly by the vowel-ending of the nominative.

During 15 months of preliminary analysis after Bennett's publication of the ' Pylos Tablets ', it had been possible to form some idea of the grammatical structure of the Linear B language, and to fix the relative positions of many of the signs on the ' grid '. There now seemed to be sufficient material for a reasonably controlled experiment in allotting phonetic values.

I had been careful to ' show my working ' by sending out monthly duplicated notes to two dozen of my colleagues, and up to this point I had shared the general feeling that the tablets could not be in Greek. Most Greek men's names end in *-os*, *-es*, *-as*, *-eus* ; and when written in the Cypriot syllabary, which we had assumed to preserve intact the Minoan spelling rules, these must all end in the syllable *-se*. But the Linear B lists of men's names (such as the Mycenae tablet shown in FIG. 1) do not end predominantly in one particular sign, such as might correspond with *-se* ; and it is no good explaining away the men's names as those of aboriginal ' Aegeans ', since many of them are clearly derived from the same language as the descriptive text.

Previous attempts at decipherment had all relied, for fixing the key phonetic values, on supposed resemblances between Linear B signs and those of the classical Cypriot Syllabary, whose values are known. The latter is clearly derived from the Bronze Age writing of Cyprus, until recently known only by a few words on terracotta balls, seals and sherds ; and it has been widely held that this is a direct descendant of Minoan Linear Script A[6]. The theory is attractive, but cannot yet be proved, and ' Cypriot Linear Script ' might be a more non-committal name for it than the current ' Cypro-Mycenaean '. Now better known from the two Enkomi tablets found by Dikaios[7], it shows few superficial resemblances to either Linear A or B, except in the shapes of some of the most elementary signs. The differences might well be due to a reduction in size and a more ' cuneiform ' writing technique, but they make parallels between Linear B and the classical Cypriot Syllabary almost impossible to trace. It is clear that the values of the Linear B signs must be fixed on internal evidence, and to satisfy the ' grid ' and inflexions already found, without taking into account any other doubtfully related writing systems.

I had come to the conclusion that Dr Kober's ' triplets ', shown above, were the names of the chief Cretan cities, together with their corresponding adjectives. Now it is characteristic of most languages, when syllabically written, that the signs for the plain vowels *A- E- I- O- U-* are exceptionally common in an initial position ; and the first sign of the first ' triplet ' had already, from its enormous frequency as an initial in both Linear A and B, suggested the value *A-* to Kober and Ktistopoulos. The decisive step was to identify the first word with Amnisos, and to substitute values which would turn the others into Knossos, Tylissos, Phaistos and Lyktos :

A-mi-ni-so	*Ko-no-so*	*Tu-ri-so*	*Pa-i-to*	*Ru-ki-to*
A-mi-ni-si-jo	*Ko-no-si-jo*	*Tu-ri-si-jo*	*Pa-i-ti-jo*	*Ru-ki-ti-jo*
A-mi-ni-si-ja	*Ko-no-si-ja*	*Tu-ri-si-ja*	*Pa-i-ti-ja*	*Ru-ki-ti-ja*

Since about 50 signs had already been assigned to their places on the ' grid ', the substitutions in these 5 words automatically fixed most of them as well, by a kind of chain

[6] Evans, *Scripta Minoa I*, pp. 68–77 ; Daniel, 'Prolegomena to the Cypro-Minoan Script', *AJA*, XLV, 1941, pp. 249–82.

[7] The first published in ANTIQUITY, June 1953, pp. 103–4 and Plate IV ; the second in *Illustrated London News*, 5.9.53, p. 342, and again on pp. 233–7 below.

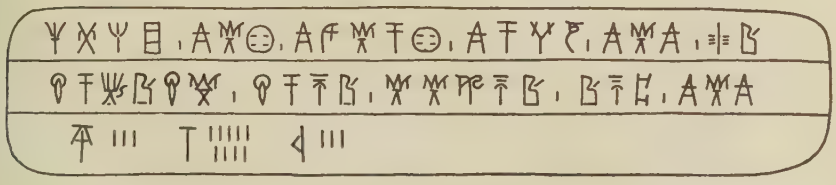
reaction. If these names were an illusion, then the resulting system of values must inevitably be a completely dislocated jumble, with which no further sense could be extracted from the texts by any sort of jugglery.

The next step was to apply the experimental phonetic values to the detailed pattern of declensions which I had already analysed. I was surprised to find that these fell into line, not merely with the known Greek system of declension, but specifically with its most archaic forms as deduced from Homeric and other dialects. The few words whose probable meaning was widely agreed also yielded Greek sense, and the long list of names of trades also provided a large number of just those Greek terms which one might expect to find.

The reader will notice that Knossos is assumed to be spelt *Ko-no-so* without its final *-s*, which is similarly omitted in *Ko-no-si-jo* = *Knosios* ' Knossian '. The Greek readings have only been made possible by the controversial assumption that *-s -l -m -n -r -i* at the end of a syllable are not indicated in the spelling, which appears generally to allow only one sign to each spoken syllable. This practice, at variance with that deduced for the script on the Cypriot analogy, would account for the lack of a recurring written ending in the men's names, and also for the peculiarity that, though many Linear B nouns have a distinct written form for the plural, others (corresponding to Greek *-o-* and *-a-* stems) are indistinguishable from the singular :

One may oneself have a clear idea of the moment at which one's substitutions begin to ' click ' unmistakably, but one cannot expect a solution to be generally accepted until one can make convincing sense of the texts as a whole : this inevitably proves a slower and a more laborious process. Most interesting is the study of the few tablets which contain reasonably long sentences, and the following three examples show the kind of subject-matter which appears to emerge. Many of the suggested meanings are still very doubtful, and may have to be revised :

Pylos AGRICULTURAL tablet Eb 35 (not a facsimile drawing) :



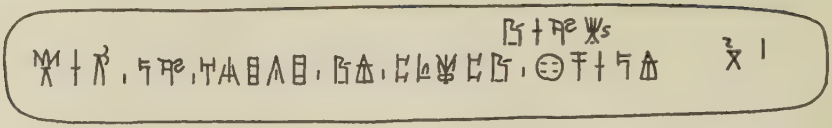
Hiereia echei-que, euchetoi-que etonion echeen theon, ktoinoochons-de ktoinaon kekeimenaon onata echeen.

[*Tossonde spermo :*] ? *WHEAT* 3 – 9 – 3

' This the priestess holds, and solemnly declares that the god has the true ownership, but the plot-holders the enjoyment, of the plots in which it is laid out.

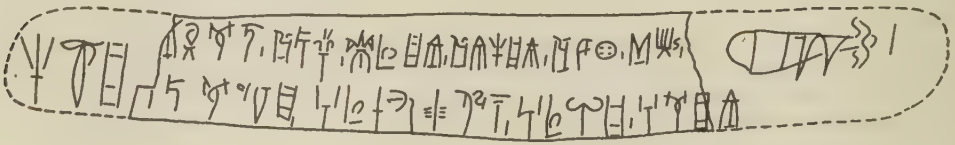
[So much seed :] $3\ \frac{57}{60}$ units '.

Pylos PERSONNEL tablet Ae 04 :



Ke-ro-wo poimen Asiatias opi Thalamataon quetropopphi oromenos : *MAN* 1.
' K., a shepherd of the farmstead A., watching over the quadrupeds of the Thalamatai : 1 MAN '.

Knossos ARMOURY tablet Sd 0405 :



HIQUIA, phoinikia hararmostemena, araruia haniaphi ; wirinios ' o-po-qo ' keraiaphi opii(sta?)iaphi, ou-que ' pte-no ' : CHARIOT 1.
' Horse-vehicle, painted red, with bodywork fitted, supplied with reins ; the rail (?) of wild-fig-wood with jointing (?) of horn ; and the *pte-no* is missing : 1 CHARIOT '.

There is some doubt whether the present Linear B material is large enough for the decisive proof of a solution, but a substantial check is promised by the still unpublished Pylos tablets found by Blegen in 1952 and 53. At all events, I do not anticipate serious competition from any rival decipherment—not out of conceit, but because of this unfair advantage : if the tablets are written in Greek, they can hardly be explained otherwise than we have proposed ; but if they are not, their language is probably in the existing circumstances unknowable[8].

[8] Fragmentary records of two non-Greek languages, readable but untranslatable, have been found in the Aegean : (1) Eteocretan, from Praisos in eastern Crete, possibly a survival of the ' Minoan ' language ; (2) the native idiom of the island of Lemnos, which shows a striking resemblance to Etruscan.

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Edward Simpson, *alias* 'Flint Jack'

A Victorian Craftsman

by John Blacking

THE Victorians were great collectors. They fortified themselves by collecting other men's land and its products ; glorified themselves with collections of children, relations, and pompous civic buildings ; and justified it all with a series of facts collected from the Family Bible, and from accounts of primitive men and Evolution. Their attitude to everything was captative ; and only in moments of extreme distraction were they oblative. Those who had recently 'arrived' loaded glass-fronted cabinets with sets of china—never used, for fear that they would be broken. They could fill their drawing-rooms with hideous statuettes, and cover their mantelpieces with stupid bric-à-brac and an occasional palaeolith—because there was at least one parlourmaid to dust them. Even more intelligent men, less anxious to impress their families and friends, were afflicted with the same disease : their motives were acquisitive rather than artistic or truly scientific ; and if there was any philosophy other than that of mere gain, underlying their systematic collection of curios, it was the philosophy of Evolution, and with it the complacent belief in progress from Palaeolithic Man with his pathetic flint scrapers, to the Victorian Superman, with his eighty-bladed Sportsman's knife.

Such was the nature of the environment which was both the making and the undoing of Flint Jack ; it was responsible as much for his personal success as for his public failure : for if there had been no current interest in antiquities, he might never have realized and developed his own peculiar genius ; and, in turn, his intentions would not have been misunderstood, nor his talents misused if the attitude of most antiquarians had been different.

Edward Simpson (PLATE I) claimed to have been born at Sleights, near Whitby, in Yorkshire, in 1815 ; but some called him 'Cockney Bill' on account of his dialect, and it is very probable that he was in fact born in London : moreover, later in life he described himself as a 'bricklayer's labourer from the Borough'. Whatever his origin, though, we find him in his earlier days as a respectable servant in Whitby, first with a Dr Young—described as 'the historian of Whitby'—and then from 1834 to 1840, with Dr Ripley, with whom he frequently went fossil-hunting. When the doctor died, he collected fossils on his own account, disposing of them to local geologists and dealers. He was looked on as an 'intelligent young fellow', and was known familiarly as Fossil Willy. 'In 1841 he extended his dealings to Scarborough, Filey, and Bridlington, traversing the various districts on foot, and, in addition to finding fossils, became expert, and was often employed in cleaning and setting up specimens'. He was, in fact, ideally qualified for the work of a Museum assistant ; and if he were alive today, his knowledge and enthusiasm alone would be greatly valued and appreciated.

But Flint Jack was more than a Museum man ; he became a fine craftsman and something of a creative artist : his work was largely imitative, it is true ; but then so is the work of all but a few great artists at any time in history. The medium which he selected most frequently for his work was flint : and anybody who has tried to use this material will

know exactly how difficult it is to strike off a single flint cleanly—let alone fashion a whole implement ; he will know, too, the satisfaction to be derived from flaking flints, once a little skill has been acquired ; the intellectual fascination of adjusting the form of the tool required to the shape of the material given ; and the pleasure of handling and exhibiting the finished product.

Flint Jack's attitude to his work was always that of the craftsman and creative artist. When examining flint tools belonging to James Wyatt, 'he would contemplate some with silent admiration for a minute, and then with enthusiasm would point out where great ingenuity had been displayed to produce a particular fracture. One apparently tough intractable flint which had been wrought into a fine oval weapon he regarded with great interest ; and as he tapped it he said " there's talent, my boy ! " On my questioning him as to his opinion concerning the probable mode adopted by the old flint folk in making the beautiful small conchoidal fractures on the flat surface of the arrows and leaf-shaped spears, he said " no man alive can do it : it is a barbarous art that is lost. I know the nature of flint as well as any man but I can't do that. I can make a barb that you could not detect : and I'll do it some day. In the meantime as you are a good friend to me I will show you how to make a fine thing of that kind. (Taking up a flint and adroitly striking off a thin chip which he designated a ' pretty fragment ' he added—) Whatever design you want you must carry it in your eye, and jimp it accordingly ". Then taking an old piece of iron wire with the head curved he tapped the edges of the fragment until he produced a well-shaped arrow-head, and then finished it by jimping out at the base two semi-circular holes so as to make a shaft like those of the most finished types of the old British period. The enthusiasm with which he works, and unqualified admiration with which he describes the finely chipped weapons of antiquity convinced me that he never told the truth so earnestly as when he said, in reply to a friend of mine who interrogated him, that he "loved that sort of work—and did it rather than anything else because he loved it "' (PLATE II).

On another occasion he was given a large flint by Wyatt, who writes that ' he proceeded to luxuriate in the possession of it by tapping off flakes, knives, and " fragments ", some of which he admired very much. He is a thorough enthusiast, and when he strikes off a well-formed flake, or makes on the side of a " fragment " a few good successive fractures I believe he really thinks that he has accomplished something very creditable. It was very curious to see him seize the flint and critically examine the " grain " of it, and to hear his speculations as to the mode in which the flakes would run, and how many could be struck off it. After having duly expatiated on flints in general and then on that flint in particular, he put his hand in his pocket, took out a little hammer with a short handle, spat on his hand, and struck off the conical end of the flint. Then having obtained a good flat face he proceeded to detach beautiful flakes and knives at single taps of the hammer from the flint which he rested on his left thigh. The ease with which he did this showed him well acquainted with this peculiar material which in less skilful hands is so obdurate when any attempt is made to unravel the mystery of flint-tool manufacture by the ancients . . . He is wonderfully acute in detecting any peculiarities in the construction of any ancient work of art, and his marvellous imitative faculty enables him to reproduce them very rapidly. The hardest jobs he ever undertook appear to have been the manufacture of polished flint celts : but he has succeeded in discovering a method of grinding them to a smooth surface . . . After an interesting lecture on the art from his own point of view Simpson again referred to his future prospects, and his determination to try London until the Spring weather arrived ; " but " said he, " the length of my stay there depends upon the way I am appreciated "'.

PLATE I

EDWARD SIMPSON ('FLINT JACK')
From a photograph taken at Salisbury in 1863, by F. Treble

facing p. 208

PLATE II

TWO SPECIMENS OF FLINT JACK'S WORK IN THE SALISBURY MUSEUM

PLATE III

AIR PHOTOGRAPH OF THE EARTHWORKS AT BIGO BY THE FORDS OF THE KATONGA RIVER IN WESTERN UGANDA

Because of the stuffiness and complacency of so many contemporary antiquarians, because of their laziness and lack of scientific method, the unfortunate Flint Jack was regarded as a dishonest forger. His unique ability as a craftsman, and his rare qualities as an artist were appreciated by none but a small handful of scientific men ; and even they looked upon him more as a curiosity than as a positive asset to scientific research. Apparently oblivious of the importance of the study of technology, they made no accurate record of his techniques of flaking—which might have prevented some of the fantastic accounts of flaking techniques which have since appeared in archaeological text-books ; they neither noted such a simple but important fact as the proportion of waste flakes produced in the manufacture of a single tool, nor did they concern themselves with the psychological aspect. There they were, confronted by a link with the prehistoric past more real than the finest series of flint implements, and yet so obsessed with the pursuit of material objects that they totally ignored the human element. They forgot that palaeoliths were not mere tools, but the tools of man, made by man for man, which could never be properly understood divorced from their human context.

If more Victorian antiquarians had been thorough scientists, and had rejected any implements whose exact context and location could not be accurately checked ; if they had been energetic field-workers, and had deigned to make their own excavations, or at least visit sites and gravel pits themselves, Flint Jack's career would undoubtedly have taken a different course. But most antiquarians wanted the implements only for the sake of the collection ; like the youthful collectors of cheese-labels or match-boxes, they wanted the complete set—and preferably in mint condition. Their attitude was thus regrettably not that of the scientist, but apparently that of the art connoisseur. And Edward Simpson, the craftsman in flint, like the true artist that he was, met the demands of his patrons : the possession of flints and fossils had become an important social asset, and he could supply all the ' specimens and dooplicates ' needed both to fill empty cabinets and to complete existing sets of tools. He had no illusions about his clientèle, however, and would recognize and respect the true man of science : thus, when James Wyatt asked him if he had come to sell some specimens, he replied, ' Not to you : you are too particular ! I called to see you and *your* specimens '.

His attitude towards the mere collector, however, was quite different : ' when some species are scarce and people don't know them well you must do your best ; you understand me ? Today I sold a very pretty ammonite for sixpence and some nice food to a lady ; and it was a good thing I assure you. I made it out of a very nice fragment of the Northamptonshire sand-stone, which works very well if you are careful to get a piece out of the right stratum. If I had not sold this I should have been without food all day'. He warmly expressed his disgust against several forged implements which Wyatt had brought from Amiens : his strong observations were directed quite as much to the ' shameful imposture ' as to the bad workmanship and clumsy design of the forgeries, and his indignation knew no bounds when he was pointing out that a very fine ancient hand-axe had been tampered with by the modern French impostors. He refused to regard his ' forgeries ' as moral offences, and considered it excusable to palm them off as antiquities as they were ' really good things ' as works of art.

But he sadly misjudged the majority of his patrons : they were neither connoisseurs nor genuine lovers of art ; they wanted antiques for the sake of their antiquity, regardless of their inherent aesthetic merits. Just as the quacking critics raved about pictures which they believed to be genuine Vermeers, but railed against them when it was revealed that they were modern, so did Victorian collectors, outraged by the attack on their pride and the flagrant exposure of their own humbuggery, brand Edward Simpson a ' filthy,

dissolute ' crook, with ' half-stupid, sinister expression ', ' ingrained deceitful and oblivious to all sense of shame '.

The extraordinary details of his tragic career are well-known, and can be found in the works referred to at the end of this article. He visited Scotland and Ireland ; but found Scotsmen ' too cannie ', so that ' the journey would hardly bear expenses ' : in Ireland, however, he left behind him ' many a fine celt, arrow-head, hammer, and spear '. At Cambridge he ' drove a roaring trade ' in antiquities ; and in 1863, he first appeared in Salisbury, where he made a series of flints ' to order ' for Edward Stevens, Honorary Curator of the Blackmore Museum. During his first visit to London he ' found the demand for celts and other flint implements fully up to the measure of his power to manufacture them '. He even told a Professor that there were plenty of his things in the British Museum—and very good things they were too.

His decline was tragic. On January 18th, 1867, when he visited James Wyatt, he was ' very poorly clad, unshorn, and shivering with cold and hunger . . . his shoes were nearly worn off his feet and he was suffering acutely from the cold. His old alias ' Shirtless ' was never more applicable than at this time, and he really seemed to have arrived at the notion that being without a settled occupation and a home was very trying when the thermometer stood at 15 degrees . . . The snow was deep and the frost very severe so that it was difficult to see even the heaps of gravel, much more so to find good flints . . . in spite of all his privations he could not see any charm in settling down, but preferred a wandering life, and he firmly insisted that he could never work at anything with so much pleasure as his imitations '. (In spite of the strongest opposition and overwhelming temptation, he remained true to himself, and never shunned the hard life which his innately artistic temperament demanded of him.) About a week later, Wyatt writes :— ' Worse and worse ! Flint Jack after staying a week obtained sixpence more of me and sixpence of Mr Haddock to assist him on the way to London. It appears that he proceeded to the last house on the London Road, but unfortunately that is a public house and he could not resist the temptation of entering. The consequence was that he got drunk, and as the craving increased after his money was gone he came back to the town, opened the front door of a house near mine, and took a barometer, but having been seen by a man outside he bolted and threw the barometer away. Later in the evening, finding a light in the school-room attached to the Methodist Chapel he entered and stole the clock, which he tried to sell to the keeper of a public house, and finally left it with him as a deposit. The police got on the scent and ran him down at a low lodging-house, and then removed him to the Lock-up . . . On Monday morning the two charges of felony were pressed against him and the Borough Justices committed him for trial '. Edward Simpson was tried before the Recorder at the Bedford Borough Quarter Sessions on March 11th, 1867 ; he pleaded guilty to both indictments, laying the blame on the drink. With the view of his having a chance of redeeming his character and reforming his habits, he was sentenced to one year's imprisonment instead of transportation.

It is a sad comment on the attitude of many Victorian antiquarians that a year in prison should have been considered ' beneficial ' for such a talented craftsman as Flint Jack. He would never have been driven to such excess if his work had been appreciated and its scientific value recognized. Under wise supervision he might have been able to make such contributions to the understanding of flint technology as the late Sir Francis Knowles ; and he would certainly not have been hounded about and called a ' forger '.

' Forgery ' is really a subjective term, a substitute for the more objective ' foolery ', expressing the self-righteous indignation of the person who has been gulled. The forger of the five-pound note is in a sense taunting those who attach such importance to a mere

piece of paper: forgeries help us to preserve a sense of values, because the best and most valuable things in life can never be forged. It is often well-nigh impossible to distinguish the faked tiara from the genuine article; and yet the matter is of tremendous importance to the owner of the diamonds. But unfortunately for Flint Jack, the fools lacked a sense of humour; and the wiser men were unaware of the enormous scientific potentialities of his genius.

References

All the long quotations in the preceding account were drawn from the Private Journal of James Wyatt, kindly provided by his grandson, Mr Hervey Wyatt.

Other references:—

1867—'Flint Jack: a memoir and an appeal', by Llewellyn Jewitt, F.S.A.; from *The Reliquary*, VIII (Oct. 1867), p. 65.

1870—Mentioned in connection with specimens in the Blackmore Museum, Salisbury; *Flint Chips*, by Edward T. Stevens, p. 50 and p. 591. (Same remarks reprinted in *A Guide to the Blackmore Collection*, p. 158).

1897—Mentioned in *Ancient Stone Implements*, by Sir John Evans, p. 42, and p. 659.

1905—*Archaeology and False Antiquities*, by Robert Munro, pp. 111–17. A short history of Flint Jack is referred to, published in 1894, written by Dr Joseph Stevens, Honorary Curator of the Reading Museum.

1908—*Forgeries and Counterfeit Antiquities*, by Thomas Sheppard. Hull Museum Publications, No. 54, August 1908.

References in *Notes and Queries*:

3rd S., XI, 310. (20.4.67) Imprisoned for 12 months for felony at Bedford. Real name Edward Simpson of Sleights, Whitby; *alias* Edward Jackson; *alias* John Wilson, of Burlington; *alias* Jerry Taylor, of Billery-dale, Yorkshire Moors. Also 'Old Antiquarian', 'Fossil Willy', 'Bones', 'Shirtless', 'Cockney Bill'. For 30 years has dealt in fakes—'fossils, Roman and British urns, fibulae, coins, flint arrow-heads, stone celts, stone hammers, adzes, etc., etc.'. Chief area, N. and E. Yorks, Whitby, Scarborough, Burlington, Malton, York. Once worked for Dr Young, historian, of Whitby, from whom he gained archaeological and geological knowledge. After death of Dr Young he worked honestly, collecting fossils, etc. Took to drink, and then to forgery. Exhibited his technique at meetings of various societies in London.

3rd S., XI, 365. Refers to 'Flint Jack: a memoir of Edward Simpson, of Sleights, Yorkshire, the fabricator of Spurious Antiquities'. (Reprinted from the *Malton Messenger*). Malton: H. Smithson, Messenger Office, 1867.

4th S., I, 520. (30.5.68) Ref. to notice in *Newcastle Daily Journal*, 14th, May 1868, of Flint Jack's release from prison.

'Flint Jack, an E. Yorkshire character', by R. W. Corlass. (Reprinted from *Driffield Observer*, n.d., but given to B.M. 29.8.78).

Some additional information to above, including account of his demonstrations to Geol. Assoc. (*Proc. Geol. Assoc.*, 1862) from *People's Magazine*, 6th July, 1867.

Recent Discoveries in East African Archaeology

by the Rev. Gervase Mathew

SINCE 1947 there has been a considerable advance in East African Archaeology. The preliminary archaeological survey of the East African coastline and islands has been almost completed. The area covered has stretched from the coast of British Somaliland to the frontiers of Portuguese East Africa ; two stretches of the Tanganyika coast and the Mafia group of islands off the mouth of the Rufiji still remain unsurveyed, but it is hoped that these may be covered by the close of 1954. It has been essentially a surface survey, a fairly complete photographic record has been made of the principal sites, and plans have been made of some of the chief monuments. During the same period Mr Kirkman has carried out excavations at the very representative Gedi site, and his detailed report is about to be published by the Oxford University Press. At seven other sites there have been preliminary excavations. It is at last possible to suggest a few tentative conclusions.

It is now clear that many of the ruins on the Kenya and Tanganyika coast once ascribed to an early medieval Persian settlement, were built during the 17th, 18th and early 19th centuries. These sites are linked by the common use of blue and white Chinese porcelain of 17th and 18th century types, apparently re-exported from South Arabia, and of cheap glazed ware from the Persian Gulf. There are recurrent types of mosque and house and tomb and fortification. Dated inscriptions have been found in considerable number. It was a composite culture, always at least nominally Islamic but progressively Africanised. It came into being towards the end of the 16th century when the power of Portugal first began to fade, and fell into decay in the late 18th century when the Sultans of Oman gained control of the coast and developed the economic predominance of New Zanzibar. It was a culture of small island states, oligarchic in their social structure, using a currency of beads and rolls of cloth and trading in slaves and ivory. During this period were built the ruined towns of Pate, Manda and Siu, the two main sites on the Lamu island, three sites near Witu, Mambrui a little to the north of Malindi, the chief remains near Mombasa, the Wasin island ruins, and four of the towns along the Tanganyika coast. It is clear that some of these had been built on sites that had never previously been occupied. But at Manda, Pate, Lamu and Kilifi there are direct links with the far more highly developed civilization of the islands before the coming of the Portuguese.

It is now becoming possible to reconstruct the civilization of the island sultanates in the 14th and 15th centuries. They were Islamic merchant cities grown wealthy through the trade in ivory, gold and iron, and they had contacts throughout the Middle and Far East. During the preliminary excavations in the deserted town on the coral island of Songa Mnara, I was able to examine and identify broken glazed pottery from Syria and the Persian area, fragments of brown glazed stoneware almost certainly from Siam, and a mass of Chinese porcelain that has been dated from late Sung to early Ming. Among the coins discovered in the same group of islands there are specimens from mints in Mesopotamia and from Mongol mints in Persia, while among the beads there are pierced carnelians from India, and others of amber and crystal and topaz.

By the 15th century this island culture had evolved its own characteristic architecture. At Songa Mnara fluted demidomes rest on fluted pilasters, and there is an elaborate

vaulted chamber with a barrel roofing inset with a hundred circular cavities. In the Palace doorways each pointed arch with its thin stone edging is reset within a rectangle of cut stone. Within the Palace there is an intricate system of sanitation with stone piping. Everywhere there is an evident delight in geometrical precision. During the late medieval period this culture would seem to have stretched from Portuguese East Africa to the Coiama islands off the coast of what is now Italian Somalia. In itself it forms a distinct variant among the medieval Islamic civilizations. Nothing has been found to corroborate the tradition of Persian origin. Its closest links are with the Bahmani Kingdom in India : there is the same use of rhymed couplets on the coinage, and architectural parallels. The

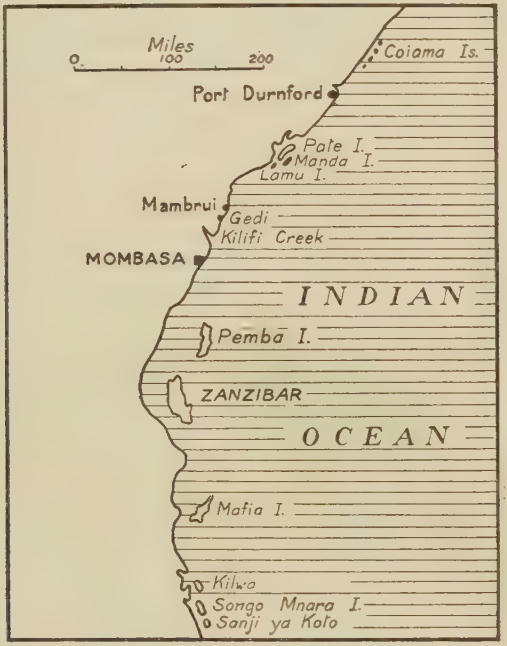


Fig. 1. SOME SITES ON THE EAST AFRICAN COAST

original immigrants may have come from Southern Arabia, but the culture they created will be most profitably studied in relation to that of Islamic India, since it was on the trade contacts with Islamic India that the prosperity of their towns depended. This ' Kilwa ' culture would now seem to have come into existence in the 13th century and to have ended towards the close of the 16th ; its economic basis had been undermined by the coming of the Portuguese three generations earlier. The earliest recorded coin from an African mint seems to date from the end of the 13th century. The earliest datable pottery is early 13th century glazed import ware.

To the north a parallel Islamic town culture evolved during this period. It extended from Merka in Italian Somalia to the island site opposite Zeila in British Somaliland, and stretched inland to the Adal cities on the present Ethiopian-Somali border. This grouping was culturally most dependent on Ayubid and Mamluk Egypt, was economically

dependent on the slave trade, and had contacts that stretched far into the interior of Africa. Fifteen such sites have been listed : I have carried out excavations at three of them in 1950. There are the same types and the same quantity of celadon as in the southern grouping and a greater quantity of imported coins, beads and enamelled glass.

Before the 13th century there was an earlier Islamic culture in East Africa represented by eight sites that stretch from Italian Somalia to the newly discovered ruins on Sanje Majoma south of Kilwa, and including Kizimi Kazi and Unguja Kuu on Zanzibar. None of these would seem to have been more than small trading stations, marked now by some fragments of a mosque normally in coral rag, traces of rough fortification, broken sgraffito ware and an occasional coin from some Mesopotamian mint. The three inscriptions so far recorded are of the 11th and 12th centuries. The earliest coin recorded is of the 9th century A.D. Perhaps the trading settlements were beginning then. It is just becoming possible to trace an earlier culture still. In the autumn of 1949 I discovered a site on Sanje ya Kato island a little to the south of Kilwa. This settlement is not apparently Islamic and there is no trace of a mosque. The Sanje ya Kato people lived in small oblong houses of carefully dressed masonry grouped round a citadel whose walls still rise to 16 feet. They knew the use of iron and used thin red pottery. The remains of a tower were found at the same time within four miles of the settlement. This had apparently been built in tiers, ziggurat fashion, and the builders had used dressed blocks of sandstone, presumably from the mainland, some over 3 feet square ; it would be premature to give any definite opinion on the dating, but it seems not impossible that these settlements might be trading stations of some South Arabian people. It is necessary to be still more hesitant about another people who have left traces from Ndoe on Manda island south to Songo island and who built their small square houses and low town walls from lumps of uncut coral and used a very rough hand-made pottery of brown and brown grey. They were clearly more primitive than the Sanji ya Kato culture but in Africa it does not necessarily follow that they belonged to an earlier period or even to a different one.

The primary need is to have a site of each type scientifically excavated and a pottery sequence established. It seems not impossible that in the case of the Sanji ya Kato people such a pottery sequence might be ' pegged ' by the discovery of a datable import or of a Ptolemaic or Roman coin. It is improbable that there was considerable Graeco-Roman penetration south of the natural starting-points on the Monsoon routes to India—the Port Durnford area or the Lamu-Manda group of islands off North Kenya. But there was occasional penetration as far south as ' Raphta ', most probably an area including both the Kilwa and Mafia groups of islands off Tanganyika. Ptolemaic silver coins have been reported from as far south as Msasani near Dar es Salaam, and the ' Periplus of the Erythrean Sea ' provides evidence for close trade contacts between Raphta and South Arabia.

Another non-Islamic culture is in process of being discovered and is proving to be a singularly elaborate one. In the Spring of 1952 I carried out preliminary excavations for the Uganda Government at three sites in Western Uganda. I had the assistance of Mr Eric Lanning who has carried on the survey last winter. All the sites surveyed by the expedition were traditionally associated with the Bachwezi Empire during the medieval period. The expedition began at Ntusi where the traces of habitation cover an area over a mile in length and half a mile in width. The extent of the middens suggest how thickly and for how long the town must have been inhabited. One midden at the head of the Ntusi and Sagazi valleys is approximately 80 feet long, 50 feet wide, and 15 to 20 feet high. Another is of even greater length, though only about 4 feet in depth.

Four other middens were located. All consist primarily of pot-sherds normally incised with elaborate geometric patterns, and of small bones rendered friable with age. In three there are also considerable traces of charcoal. Close to the site there are remains of elaborate irrigation works. There are many mounds, some quite large, traditionally regarded as the graves of members of the Bachwezi royal house. One of them had been

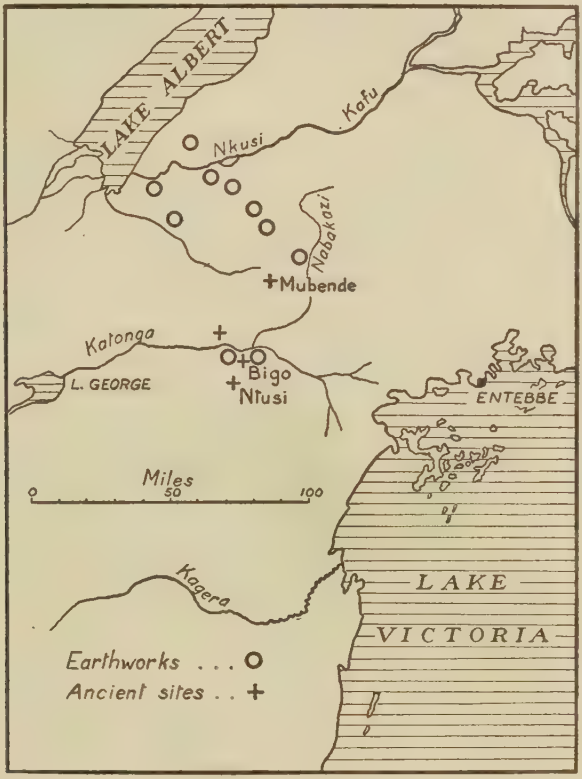


Fig. 2. THE 'BACHWEZI' SITES IN WESTERN UGANDA

inadvertently opened by the P.W.D., and I was able to salvage some of the grave goods thus exposed.

The Ntusi site lies approximately 7½ miles within the Katonga line of fortification, the most elaborate system of earthworks reported in Africa. In each case these fortifications are concentric, and at Bigo the outer ring of bank and ditch is 2¾ miles in extent. Taken together, Kagogo, Bigo and Kasonko, all on the south bank of the Katonga River, command the river frontage for 5 miles on either side of Bigo ford. But Bigo at least is far more than a fortification (PLATE III). The ditches of the inner circuit are still 19 feet deep in some places, and a depth of 12 to 14 feet is usual. The normal width is from 6 to 8 feet. The earth bank that surmounts the inner side of the ditches nowhere rises

higher than 4 or 5 feet. Much of the earth removed was used to make square earthen mounds within the bank, presumably as a foundation for grass houses. The elaborate system of elliptical bank within the circuit, and the occasional straight ditches, are best explained by the assumption that Bigo was primarily a royal village of the Zimbabwe type.

Two other sites of the same culture have been located, at Masaka a little to the north of Bigo, and on Mubende Hill. Eight more earthworks have been located in Mubende District, primarily through the enterprise of Mr Lanning. It will be noted from the accompanying map that six of these earth-work systems seem to form a single line of fortification stretching south-westwards from Lake Albert to the Nabakasi River ; the most northerly of these, Nsa bya Kateboha, was located by Mr Lanning in Bunyoro shortly before Christmas, 1952.

Two shafts were found cut in the rock at Bigo four yards from each other and two hundred yards within the outer line of ditches. I consider that they are associated with a similar shaft not far off sunk into the quartz reef at Lusigate and with the group of shafts sunk through laterite which I examined close to Masaka. If so, they represent some form of mine-working, since some of the Masaka shafts are linked by transverse galleries over 50 feet below surface, and some are so narrow that they could only have been used as vents.

It is the culture of an iron age people ; five fragments of worked iron have been found, including an iron spear-haft from Ntusi. Stone implements were still in use ; a chalcedony spear-head, a stone axe-head and some quartzite arrow-heads were among the surface finds at Bigo and Kagogo. The Bachwezi (to give them their traditional name) were a pastoral people ; cattle-bones, including skulls, have been found at Ntusi and within the outer earthworks at Bigo and in the area behind the Kinoni trenches. There is so far no evidence that they used cattle-flesh for food ; when the Ntusi middens were opened all the bones found were small, and the ones so far identified are those of eland and of zebra. It is possible that they were attached to a fertility cult ; an embossed clay cylinder from Ntusi and the round clay cylinder with lateral grooves found close by, are both probably phallic cult objects. They used beads, but their rarity suggests they were for ornament rather than for barter ; a cylindrical glass bead from Bigo is in opaque Indian red over a clear green transparent core, 9.7 mm. in length, 7.6 mm. in greatest diameter. They used long pendants presumably also for ornament ; a perforated pendant found at Bigo is a trapeze with rounded ends, 77 mm. in length, 33 mm. at greatest width, made from sandstone with grey and black shadings and bearing traces of ochre decoration.

Their pottery falls into three classes. Class A consists of an extremely friable rough red undecorated ware. I only noted five small fragments of this, three of them completely flat sherds ; none were in clear association with Class B or C, and two were beneath a sterile level $2\frac{1}{2}$ inches thick. Class B is best represented by an intact spherical vessel found by Mr Lanning and myself just below surface on the summit of Ntusi hill. It is of brown undecorated ware, has no form of rim lip and has a circular mouth which is merely a hole in the circumference ; it is slightly flattened on the surface opposite the mouth. Many sherds of Class B have been noted, frequently in association with Class C.

Class C is the most common and characteristic ware of the Bigo-Ntusi culture. It is a brown ware elaborately decorated sometimes with punches, in a number of intricate patterns, and is often gritty with quartz particles and badly fired. The rims have overturned lips usually completely covered with square or round impressions. The surface is sometimes completely decorated, but more usually the decoration ends with a wide band round the neck. Brown is the normal colour, but there are variants from red

brown to dark grey. It seems very like the Zimbabwe ware (Class A) of Dr Caton-Thompson ; five very intricate patterns are common to both. In the last few months Mr Lanning has recorded many sherds of Class C decorated with ochre.

The Bigo-Ntusi culture with its elliptical fortifications, isolated guard posts and great middens within the settlements, presents a number of curious parallels to Zimbabwe culture. Both surely presuppose an evolved conception of Kingship. The extent of the systems of fortification, of the irrigation works and of the mines all provide evidence of the labour resources at the disposal of the ' Bachwezi ' kings. The culture clearly lasted a long time. I do not think it is yet possible to date it more exactly than somewhere in the millennium between A.D. 400–1400. It is perhaps most easily explicable as a distant off-shoot of influences from Meroe.

I have dealt in some detail with the result of last year's West Uganda survey since they illustrate so perfectly the value of correlation between archaeology and oral tradition in Africa ; the sites that Mr Lanning and I have examined are precisely those still indicated by tradition as the ' Chief houses ' of the Bachwezi. The necessity of developing such correlation was emphazised at the First International Conference on African History held in London in the beginning of July, 1953. The historical accuracy of tradition can be checked from archaeological evidence, and local African traditions can provide archaeologists with clues to the location or inter-connection of sites.

Yet this is the least crucial of the developments now needed in East African archaeology. The first objective must be to preserve and record the historical monuments and the sites of archaeological importance that are already known to exist.

It is essential to emphasize that in East Africa the rate of destruction of ancient monuments has greatly increased since the end of the war and is still increasing. This is partly due to the activity of the Public Works Department in all British territories and to the uses that it can find for cut stone. It is reported that the great castle of Siu has been totally destroyed and its stones apparently used in road construction and embankments. In Zanzibar the ruined palace of Chukweni has recently been pulled down on Government initiative, while the deserted palace of Beit al Ras was demolished on the initiative of the Education Department which considered that site would be suitable for a school. Greater tragedies occurred in Tanganyika before the time of the present Governor. In Uganda in 1950 the Public Works Department did wanton injury to the Ntusi site. The sites in the Katonga Valley are now threatened by the advance of a new railway. Each British Territory in East Africa possesses some form of Act which would give protection to any monument or site scheduled to be covered by it. But only a very small minority of the sites of archaeological importance have so far appeared on any schedule. In practice most sites lie unprotected, to be pillaged by the curio hunter. The complete set of Persian tiles in the palace Mosque of Kilwa was removed in 1946 before they had been seen or dated by any expert, and this can be paralleled by five other instances. Since recent discoveries along the coast have received some press publicity, it is probable that the amount of casual digging will increase, with all the consequent confusion of levels and the destruction of vital evidence that this implies.

The situation is aggravated by the lack of adequate museum facilities in Tanganyika, Zanzibar, Kenya and the British Somaliland Protectorate. It is twenty-three years since the Government first proposed that Fort Jesus, the great Portuguese Arab Castle at Mombasa, should become a museum for the coast ; this May the project was postponed indefinitely. The little museum at Dar es Salaam is very fortunate in its present curator, but he has inherited a number of very interesting coins and fragments of glazed pottery without any of the necessary details as to provenance. On the other hand it is

now impossible to trace between sixty and seventy Greek and Roman coins though the exact sites of their discovery in East Africa have been recorded.

The immediate and paramount need of East African archaeology is a schedule of sites and ancient monuments, a uniform Act to safeguard them when scheduled and a considerable extension of museum facilities. Now that the preliminary archaeological survey of the coast has been almost completed it should be possible to construct a preliminary schedule quite rapidly and at little cost. It should be accompanied by a detailed archaeological map and by plans of the most important sites. In view of the existing legislation in the territories, it should then be easy to frame a uniform Act to prevent the deliberate destruction of any monument mentioned in the schedule, the removal into private possession of any object from a scheduled site and unauthorized excavation at any scheduled site. The need for museum facilities could be met almost as easily. In Uganda the Kampala Museum is already being extended. Fort Jesus at Mombasa is ideally suited to be the chief museum on the coast and the photographs, plans and copies of inscriptions that have already been made could be deposited there. If the museum at Aden was enlarged it could serve Somaliland as well as the South Arabian littoral.

The second need of East African Archaeology is for a planned programme of archaeological expeditions. The field is too vast to be dealt with haphazard. The terms of reference might exclude pre-historic Africa where the problems are so completely different and where work has been so long in progress. But they should not be limited to British Africa alone ; thus an expedition dealing with the still uncharted history of the coast during the Hellenistic and Roman Periods should first concentrate on the ports along the Monsoon route to India, and might well centre at Port Durnford in the extreme south of Italian Somalia where considerable finds of Ptolemaic and Roman coins have been reported. Nor should they be too strictly limited to Africa. There can be few more promising sites than Socotra island, which was for so long the entrepôt of the Western Indian Ocean trade ; but Socotra is under Aden jurisdiction. Historically and culturally the East African coast for long formed a single unit, closely linked with the Indian Ocean shore of Arabia, since behind each of its successive civilizations lay a single permanent factor, the Monsoon.

These are immediately practicable measures. Yet ultimately the development of East African archaeology and the survival of its ancient monuments and sites demand the creation of adequately staffed Departments of Antiquities in the areas concerned. Only this can ensure the continuity necessary for the adequate conservation of sites, for planned field work and for the steady publication of its results.

Souterrains in Scotland

by F. T. Wainwright

DURING the 19th century students of Scottish archaeology were fascinated by souterrains or earth-houses. In 1877 Joseph Anderson declared that ' no class of structural remains has been more fully illustrated ',[1] and his statement is supported by an abundance of papers and reports published in the first twelve volumes (1851–78) of the *Proceedings of the Society of Antiquaries of Scotland*[2]. As the century drew to its close the earth-house gradually lost its hold on archaeological imagination. There were occasional papers[3] and a few notable discoveries[4], but on the whole the first half of the 20th century was a period of stagnation in this not unrewarding field. French scholars peered with organized enthusiasm into their *souterrains-refuges*[5], but in Scotland it was the close season for earth-houses. A little of the old interest has lately revived, and this may be an opportune moment to consider some of the more obvious problems that surround these curious structures.

What is now usually called a souterrain has in the past borne an enchanting variety of names : earth-house or eirde house, Pict's House or Peght's Hoose, weem, subterraneous dwelling, and others of less general currency. Some of these names are illuminating ; some are misleading ; not one of them today is adequate as a scientific archaeological label. The name ' Pict's House ' was formerly applied in Scotland to archaeological remains of all kinds ; it is a picturesque element in the language and legend of the people, where it properly belongs, but it is no more accurate and no more significant than the ubiquitous ' Caesar's Camp ' or ' Danes' Dyke ' in England. ' Weem ', an Anglicized form of a Gaelic word for ' cave ', is intrinsically more suitable as a definitive label, but it is also applied to natural holes and cavities, and this double connotation precludes it from the language of formal archaeology. ' Earth-house ', or the older ' E(i)rd(e) House ', could have developed into a precise scientific label, but it has come to cover structures too varied in form and function. And the once popular ' subterraneous dwelling ', still sometimes used in a modernized form by the Ordnance Survey Office, has had the academic misfortune to find itself applied occasionally to structures which are neither subterranean nor dwellings. It is probably now too late to revive any of these names for use in formal description or definition.

The first problem, therefore, concerns terminology. Vague and faulty labels frequently mislead thoughts. Discussion would be greatly facilitated if the underground structures of Scotland were classified and appropriately labelled. This is a problem that demands consideration. No suggestions are put forward here, for we are concerned less with the names than with the structures behind the names. And the names need not mislead us if we keep our eyes firmly fixed on the structures themselves.

The modern name ' souterrain ', one of our less elegant borrowings from France, should be used with caution. It may give long and useful service as a generic name for

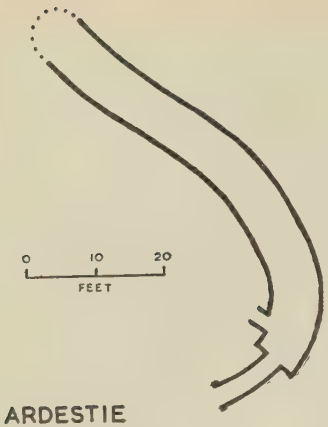
[1] *Proceedings of the Society of Antiquaries of Scotland*, XII (1876-78), 350 *n.*

[2] Hereafter abbreviated as *PSAS*.

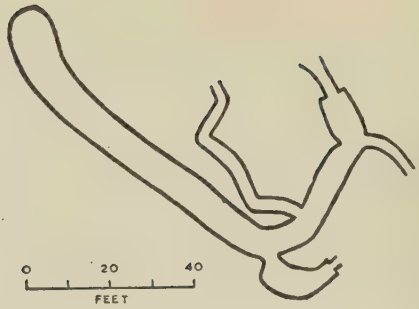
[3] e.g. David MacRitchie, ' Earth-houses and their Occupants ', *PSAS* LI (1916–17), 178–97.

[4] e.g. the discovery of the earth-house at Castle Law. See V. G. Childe, ' Excavations at Castlelaw Fort, Midlothian ', *PSAS* LXVII (1932–33), 362–88.

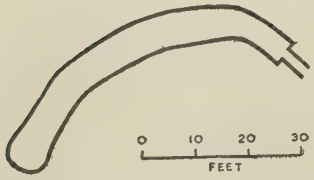
[5] A. Blanchet, *Les Souterrains-Refuges de la France*, Paris 1923.



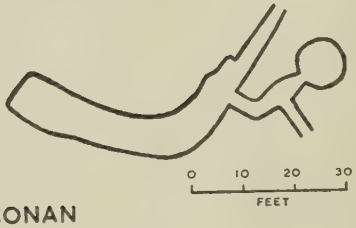
ARDESTIE



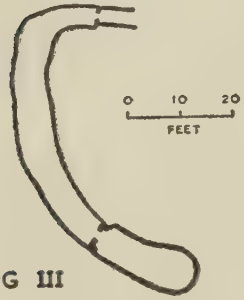
CARLUNGIE I



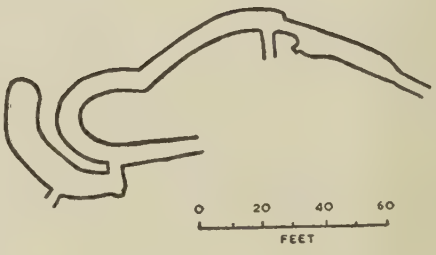
AIRLIE I



CONAN



TEALING III



PITCUR II

SOUTERRAINS IN ANGUS

FIG. 1

all structures built wholly or largely underground, but its use in this general sense should not obscure the fundamentally important fact that there are several different kinds of souterrain. To assume that all underground structures belong, structurally, chronologically and functionally, to a single undivided class would be rather like assuming that churches, cinemas and cottages are adequately covered by the label ' surface structures '. By emphasizing differences instead of similarities it is possible to isolate some of the different kinds of souterrain.

In the Tay Valley, that is in Angus and the adjoining parts of Perthshire, some fifty souterrains have been noted in the past two hundred years, but to-day there are visible remains at only six or seven sites. Most of the other sites have been destroyed and forgotten, and there seldom exists a plan or even a description. Local accounts, such as they are, suggest some variety in form and structure, but one type is so common that it may be accepted as the characteristic souterrain of Angus. Examples of it are shown in FIG. 1 where half-a-dozen Angus souterrains are drawn in outline to emphasize the distinctive features of their plans. The least damaged example is Airlie I, the only survivor of a group of six or seven souterrains found in this parish. It is over 70 feet long, or it would be if its narrow entrance passage were opened, and it is about $7\frac{1}{2}$ feet wide, narrowing a little towards the entrance and bulging outwards a little at the end[6]. Tealing III, also the only survivor of a group of souterrains, is 80 feet long and $7\frac{1}{2}$–8 feet wide[7]. Ardestie is about the same length and between 7 and 8 feet wide[8]. The main passages at Conan[9], Carlungie I[10] and Pitcur II[11] are respectively 66, 140 and 190 feet long, and the average width in each case is $7\frac{1}{2}$ or 8 feet. We know from surviving roofed examples at Airlie and Pitcur, as well as from calculations at other sites, that the height of these passages was normally about 6 feet.

At Conan there is a subterranean ' bee-hive ' chamber ; at Carlungie I there is a small annexe or chamber which in form reminds one of the great 60-foot subsidiary passage at Pitcur ; and at all three sites there are low narrow passages and additional entrances. But these are superfluities and they do not obscure the basic features which are seen clearly and without embellishment at Airlie, Ardestie and Tealing. What are the basic features of a typical Angus souterrain ? A long passage, always curved and usually paved ; a spaciousness which comes from an average width of 7 or 8 feet and an average height of 6 feet ; a narrow entrance, usually provided with conspicuous door-checks ; a slight bulging or widening at the end of the passage ; and characteristic

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[6] For further details of the souterrain at Barns of Airlie, here referred to as Airlie I, see especially *PSAS* v (1862–64), 352–3, and LXXVII (1942–43), 37–8.

[7] The fullest account of Tealing III is given in *PSAS* x (1872–74), 287–93. It is called Tealing III above in order to distinguish it from other souterrains in Tealing Parish, especially from Tealing I and Tealing II which were discovered in the 18th century.

[8] The souterrain at Ardestie (Monikie Parish) was discovered in 1949 and excavated in 1949–50. An excavation report is in preparation.

[9] See *PSAS* IV (1860–62), 492–9, for Andrew Jervise's account of the souterrain discovered in 1859 in a field on the farm of West Grange of Conan, near Arbroath.

[10] Carlungie I (Monikie Parish) was discovered in 1949 and excavated in 1950–51. An excavation report is in preparation. For a second souterrain, Carlungie II, discovered in the same field, see *Antiquaries Journal*, XXIII (1953), 65–71.

[11] For details of Pitcur II, a souterrain which still lies open in Kettins Parish, the main source of information is David MacRitchie's article in *PSAS* XXXIV (1899–1900), 202–14. Pitcur I was another souterrain, discovered before Pitcur II but now filled in.

boulder-and-slab walls corbelled inwards to carry a massive roof. Angus souterrains are built on generous lines, and their considerable height and width, no less than their length, are distinctive features which should be kept in mind.

The above is neither a complete nor an adequate description of a souterrain. It is merely a summary of the basic features of what may be called a typical Angus example. Surface structures attached to the souterrains at Ardestie and Carlungie I are omitted from the sketches in FIG. 1—not because they are unimportant, but because they are irrelevant to a discussion of the distinctive features of underground structures or souterrains. There is reason to believe that all souterrains in this area possessed an associated array of surface structures, but the point in this context is that the souterrain was not merely an adjunct to a group of surface structures. The dominant feature of a souterrain site or souterrain complex in Angus is the great souterrain itself. This is equally true of the plan of the settlement and of the way in which it was built—the trench for the souterrain came first, and the surface structures were subsidiary to it in arrangement and in construction. The souterrain dominates the site in every sense of the word. The point is emphasized because, as will appear, this is a distinctive feature of souterrain sites in Angus.

There is nothing in the Hebrides comparable to the souterrains of Angus. Characteristic of the Hebrides, and especially of North Uist, are what were called wheeled-shaped earth-houses by the officers of the Royal Commission[12] or what to-day are generally and more appropriately called wheel-houses. They fall into a different and quite distinctive structural class. They are essentially circular chambers divided by radial walls, the ends of which are sometimes blocked to form separate compartments, and they are essentially houses in the sense of places where men and women lived and slept. Examples have been reported at Bac Mhic Connain, Eilean Maleit, Machair Leathann, Usinish, Bruthach a Tuath, Cnoc a Comhdhalach, Garry Iochdrach, Loch Sheilavaig and other sites[13]. The group is well represented by the examples in FIG. 2.

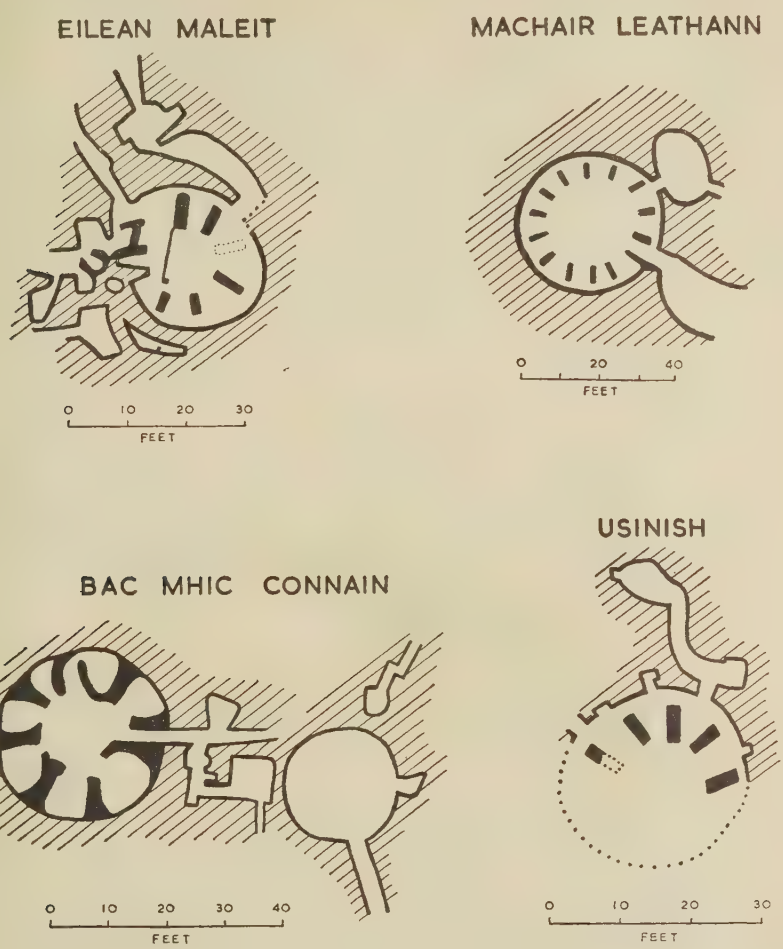
The inclusion of wheel-houses under the older and all-embracing name ' earth-house' has been much criticized. It goes without saying that ' wheel-house ' is infinitely superior as a descriptive label, but it would be difficult to sustain objections against the older name if only because it has never been defined to exclude any particular kind of structure. Indeed, its all-embracing character has been its ruin, and it has now advanced too far in the wake of ' Pict's House ' to have any future in archaeological terminology. The question of whether or not wheel-houses are also earth-houses is as unimportant as it is irrelevant. The point in the present context is that wheel-houses are certainly not souterrains. They are normally surface structures, though they may be sunk into or backed against a mound or dune. Sometimes, as at Usinish (FIG. 2), a true souterrain is attached to a wheel-house, but it is always subsidiary to the main structure, low or narrow, difficult of access, and quite unlike the spacious souterrains of Angus which dwarf and dominate their associated surface structures.

Not all Hebridean earth-houses are wheel-houses and not all Hebridean souterrains are attached to wheel-houses. Captain Thomas records a number of different structures, such as those at Scalavat, Paible, Tigh Talamhant and Tigh nan Leacach, and some of

[12] i.e. *The Royal Commission on the Ancient and Historical Monuments of Scotland*, hereafter abbreviated as *RCAMS*. On the Hebridean earth-houses see *RCAMS* IX (1928), xli–xliv *et passim*.

[13] For the sites named here see especially *RCAMS* IX (1928), xlii, 87–9, 104, 115–7, and *PSAS* VII (1866–68), 165–7, LXVI (1931–32), 32–66.

them seem to be souterrains[14]. They vary greatly in form, and their purpose is not always apparent from the reports that are available, but it is clear that they are quite unlike the

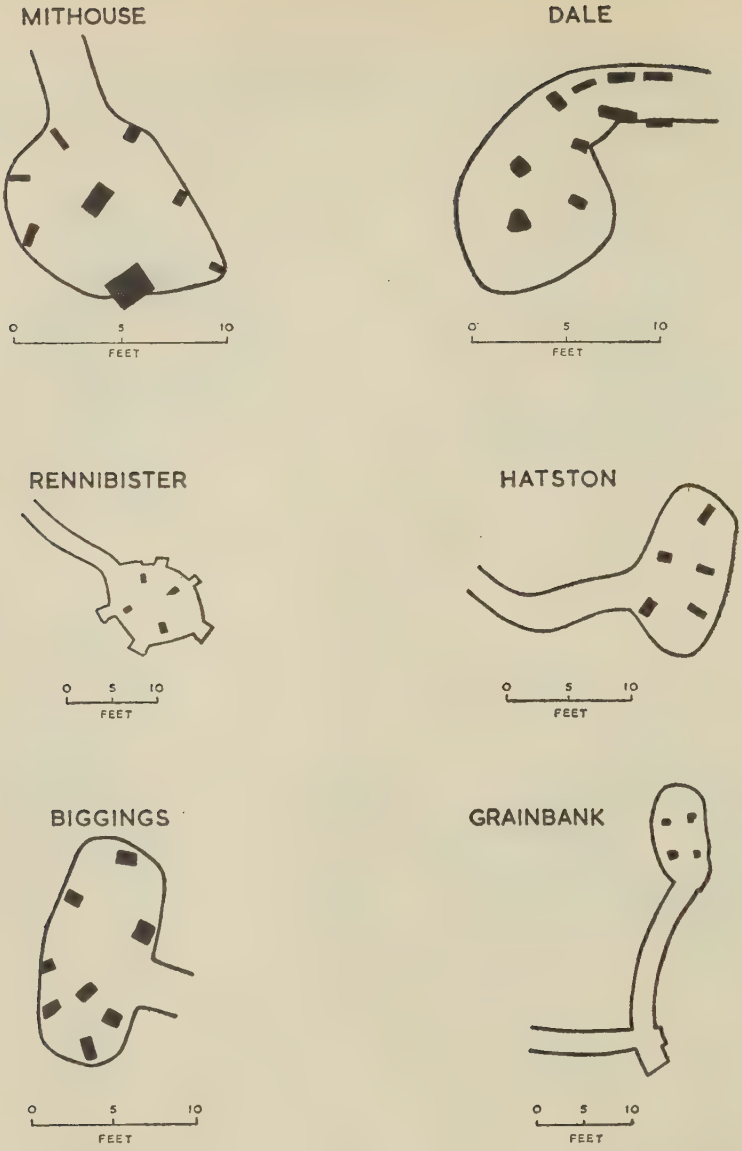


HEBRIDEAN WHEEL-HOUSES

Fig. 2

souterrains of Angus in plan, construction, internal arrangements and also, no doubt, in function. No one has yet attempted to classify the souterrain structures of the Hebrides,

[14] *PSAS* VII (1866–68), 167–72. See also *RCAMS* IX (1928), 46, 86–7, 116, 118 *et passim.*

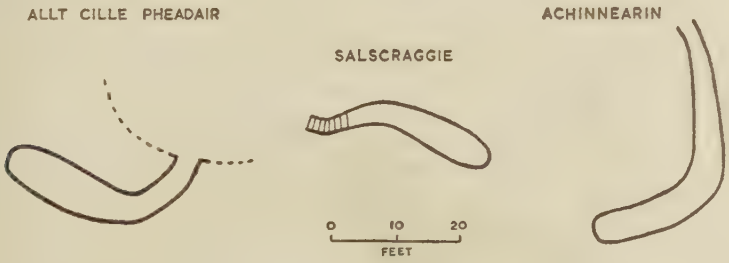


EARTH-HOUSES IN ORKNEY

Fig. 3

and it would be unwise to assume that they are altogether unrelated to the souterrains of Angus. But it is fairly certain that, however they are classified, none of them will fall into the same structural class as that which contains the souterrains of Angus.

In the Orkneys and Shetland are thirty or forty earth-houses so similar to each other and so distinctive as a group that they fall into a class by themselves. The typical earth-house of the northern isles, unlike the wheel-house of the Hebrides, is a true souterrain. Basically it consists of a low chamber the shape of which is irregular, the floor area of which is usually between 60 and 100 square feet, and the roof of which is supported by free-standing stone pillars. It is reached from the surface by a passage which is seldom more and often considerably less than three feet high and three feet wide, a passage so low and so narrow that a person can enter the chamber only on his hands and knees. The passage is essentially an entrance to the chamber, and it is difficult to imagine that it had any other function. In an Angus souterrain, by contrast, the great passage is the essential part of the structure ; the chamber, if one exists at all, is merely a subsidiary feature attached to it. We need not concern ourselves with constructional details. The



SOUTERRAINS IN SUTHERLAND

FIG. 4

six plans drawn in FIG. 3 are sufficient to prove that these northern souterrains are so like each other that they form a recognizable group and so different from other souterrains that they form a separate group[15].

Much closer in form to the souterrains of Angus are the Sutherland examples such as those at Achinnearin, Allt Cille Pheadair, Beinn a Bhragie, Cracknie, Eireboll, Salscraggie, etc.[16] The general similarity of these two groups in shape and plan is emphasized by a comparison of FIG. 1 and FIG. 4, and the fact that they are all essentially passages, as distinct from chambers, sets them apart from the structures of the northern isles. But the similarity is largely superficial. The Sutherland souterrains are much smaller than those of Angus. They are usually between 20 and 40 feet long, that is less than half the length of the smaller Angus souterrains, and by comparison they are low, narrow and

[15] For details of the souterrains of Orkney and Shetland see especially *RCAMS* XII (1946), 3 vols., and *PSAS* LXI (1926–27), LXII (1927–28), LXIV (1929–30), LXV (1930–31), LXXIII (1938–39). For recently discovered examples (Naversdale, Hatston and Skaebrae) see *PSAS* LXXX (1945–46), 143–4, and LXXXIII (1948–49), 236, 238.

[16] For details and references see *RCAMS* II (1911), 55, 70, 73, 97, 112, 115–6, 119–20.

constricted. The souterrain at Allt Cille Pheadair (FIG. 4) debouched from a large hut; that at Salscraggie is entered by a flight of steps and seems also to have been attached to a hut. Perhaps the Sutherland souterrains of this kind were normally adjuncts to surface structures, in which case they would have more in common with the souterrains attached to Hebridean wheel-houses than with the souterrains of Angus. The latter, as emphasized above, were not subsidiary to any other structure.

Many earth-houses have been found in Aberdeenshire. Some of them, like Glenkindie (FIG. 5), seem to have been chambers rather than passages, but the normal Aberdeenshire souterrain is probably better represented by Buchaam, Migvie, Culsh I and Milton of Whitehouse. The characteristic curve in the passage and the method of construction suggest that they are closely related to the souterrains of Angus, but in some respects they are closer to the souterrains of Sutherland. They are considerably smaller than the known Angus examples, and they seldom have the impressive and characteristic door-checks which in Angus divide the main passage from a narrower entrance passage. In several instances, also, they seem to have been attached to hut-circles as subsidiary structures, a structural relationship alien to souterrain sites in Angus. The material for an exhaustive survey of Aberdeenshire souterrains is fuller than that for the souterrains of Angus, and such a survey is long overdue[17]. It might reveal unsuspected similarities as well as further differences, but on the evidence at present available we should perhaps regard the two groups as separate, though not unrelated. Certainly we should not automatically transfer to either group conclusions reached only in respect of the other.

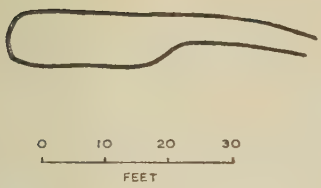
Three or four separate groups of souterrains have been indicated above. Other divisions and subdivisions might be worked out, but the object here is not to isolate and label every separate group. That would be too ambitious. It is enough to draw attention to the fact that there are several different kinds of souterrain. It is unwise to think of souterrains as one thinks of brochs, for example, or even of Hebridean wheel-houses. It seems worth while to emphasize this point because it tends to be obscured in recent studies on northern archaeological structures. The present tendency is to treat all souterrains as belonging to a single class and to seek external associations for them as widely as possible—even to regard brochs, wheel-houses, wags, souterrains and hut-circles as component and related elements in a single northern cultural complex. The approach is legitimate. Indeed, it probably offers the best chance of determining the racial origins of the souterrain-builders, the routes by which they reached Scotland, and their relationship to other early northern peoples. And to the solution of these problems must be brought the evidence of souterrains in Ireland, France, Cornwall and even Denmark, as well as the evidence of other possibly related structures and remains. Some of the results recently obtained may have to be discarded, but the approach itself is sound[18]. Unfortunately it tends to obscure or ignore the divisions and subdivisions within the various classes of structure. And there are some questions that may yield more readily to analysis than to synthesis.

One such question concerns the souterrains found outside what may be called the souterrain area. Apart from half-a-dozen examples in Fife, there are very few souterrains in Scotland south of the Tay, and it is usually assumed that the builders of these

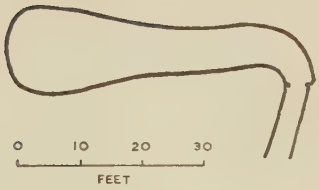
[17] A card-index list of souterrains may be compiled easily enough from references in *PSAS* and other sources. Such a list lies behind the present article. An exhaustive survey of any group of souterrains is quite another matter; it would require much closer study and the excavation of two or three selected examples.

[18] cf. Sir Lindsay Scott, 'The Problem of the Brochs', *Proceedings of the Prehistoric Society*, New Series, XIII (1947), 1–36, and especially 'Gallo-British Colonies', ibid, XIV (1948), 46–125.

CLOVA II



BUCHAAM



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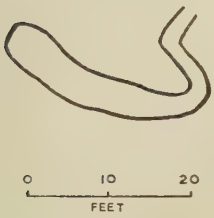
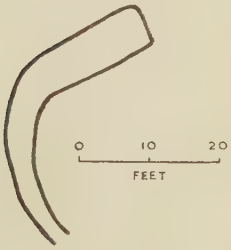
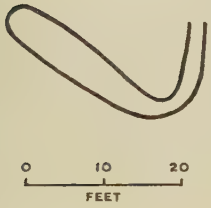


CULSH I



MILTON OF WHITEHOUSE



GLENKINDIE

SOUTERRAINS IN ABERDEENSHIRE

Fig. 5

'strays' were wanderers from the souterrain concentrations in Angus. A study of the plan of the Midlothian souterrain at Castle Law[19] bears out this suggestion; Castle Law (FIG. 6) is 72 feet long and rather narrower than the normal Angus souterrain, but the bee-hive chamber attached to it is paralleled at Conan (FIG. 1). Crichton Mains[20], also in Midlothian, could be associated with Angus by reason of its plan (FIG. 6), but its length (49 feet) and its width (about 6 feet) are perhaps slightly more reminiscent of Aberdeenshire proportions. Into the same group should be placed a souterrain found near Middleton House in Borthwick Parish[21], and also, no doubt, the two souterrains discovered at Newstead in Roxburghshire—Newstead I (FIG. 6) was 54 feet long and gradually widened from 4 feet 2 inches to 7 feet 10 inches[22]. It is difficult to decide whether associations for these souterrains should be sought in Angus or in Aberdeenshire, a doubt which might be resolved by further research into the Aberdeenshire examples. Ardross I (FIG. 6), though in Fife, has no links with Angus. It consists of a long (60 feet) passage, low (4 feet) and narrow (2 feet 6 inches), entered by steps, and leading to a distinct chamber[23]. The men who built Ardross I seem to have come from much further north than Angus. It has much in common with some of the Orkney souterrains, and the closest parallel so far noted is at Jarlshof in Shetland. Souterrain-builders seem to have reached Fife from the far north. Another souterrain, found during the last century and now preserved in what seems to be a faithful replica at Rothes House, Markinch, is not unlike the Sutherland souterrain at Achinnearin (FIG. 4), though it would be rash at present to dismiss the possibility of Aberdeenshire parallels.

But the division of souterrains into separate groups has a deeper significance. It controls one's approach to the study of these structures. If there are several kinds of souterrain and if, as it seems, they fall into geographical as well as into structural groups, it follows that conclusions reached in respect of one group of souterrains will not necessarily apply to all souterrains. It would be illogical to assume that all souterrains belong to the same period, to assume that all served the same purpose, and to assume that all were built by the same people. Such faulty assumptions underlie much that has been written about souterrains.

The age of the various Scottish souterrains is a problem too wide for discussion here. It would involve a survey of countless and often badly documented find-lists, and it would be complicated by the fact that many of the 'datable' finds, especially fragments of native pottery, have not yet been dated. And it is not always easy to distinguish between the significant and the insignificant; cup-and-ring stones, for example, which are found in many souterrains, do not reflect the age of the souterrains so much as the tastes and traditions of the people who built them. Several of the Angus souterrains have produced objects of Roman manufacture which suggest that they were in use during the 2nd century[24]. The find-list of Castle Law includes two pieces of Samian ware and

[19] *PSAS* LXVII (1932–33), 363–5, 377–86.

[20] *PSAS* VIII (1868–70), 104–9; *RCAMS* X (1929), 53–4.

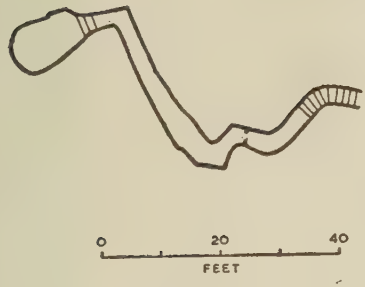
[21] *PSAS* VIII (1868–70), 27–8; *RCAMS* X (1929), 9.

[22] *PSAS* I (1851–54), 213–7.

[23] *PSAS* XII (1876–78), 626–7; XL (1905–06), 355–7; *RCAMS* XI (1933), 135. Ardross I was discovered in 1878 and re-discovered in 1906. No remains were to be seen when the officers of the Royal Commission visited the site in 1925 and when the Eleventh Report was published in 1933. The souterrain was uncovered for the third time in 1939. It is now open and well preserved.

[24] *PSAS* LXVI (1931–32), 277–397. To the Roman and Romano-British objects listed in this article by James Curle should be added a Roman amphora from Carlungie I, a brooch from Carlungie II, and two Roman fragments from Ardestie.

ARDROSS I
FIFE



CASTLE LAW
MIDLOTHIAN

CRICHTON MAINS
MIDLOTHIAN

NEWSTEAD
ROXBURGH

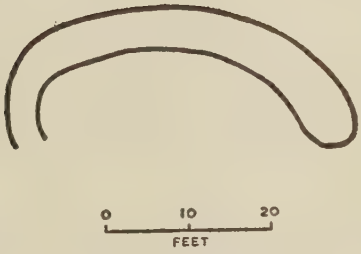


Fig. 6

demonstrates that the builders of the souterrain were in contact with Romans or Romanized Britons[25]. And built into the souterrains at Crichton Mains and Newstead were squared and dressed stones taken from abandoned Roman sites[26]. There seems to be nothing wrong with the generally accepted opinion that these souterrains belong to the 2nd century, some of them to the second half of the 2nd century. But many of them must be earlier, and some of them may have continued into the third or even the 4th century[27]. It is unlikely that all the souterrains of Angus fall neatly and exclusively into the 2nd century; an attempt to establish a more precise dating, with chronological limits if possible, is urgently required. But the main point here is that what is true of Angus souterrains may not be true of all Scottish souterrains[28]. Professor Childe has already suggested a Bronze Age context for some northern examples[29].

The function of souterrains has long been a problem. They have been regarded as dwellings, occupied permanently or seasonally, as storehouses, as places of concealment for property, and as hiding-places for women and children in times of danger. It has even been suggested, though not recently, that they are tombs or 'Arkite cells' for penance and purification! None of the suggestions put forward satisfy all cases, and that is where the problem begins to develop. But if the thesis of this article is correct we should not expect one suggestion to cover all cases. The various groups of souterrains vary so greatly in size and construction that it is no more reasonable to seek a single function for them than it would be to insist that churches, cinemas and cottages were all built with the same purpose in view.

The souterrains of Orkney, like the wheel-houses of the Hebrides, are certainly dwellings. This is placed beyond doubt by the objects found in them[30]. Souterrains attached as subsidiary features to hut-circles, such as some of those in Caithness, Sutherland and Aberdeenshire, were probably cellars or storehouses, less probably sleeping-quarters. As places of concealment in times of trouble many of them would be so conspicuous as to be useless. It is more difficult to discover the function of the vast souterrains of Angus. People undoubtedly worked in them, possibly ate meals and slept in them on occasions, but that they were not the normal living places of the souterrain-folk seems to be amply demonstrated by the fact that the normal dwellings were surface structures adjacent to them. They could have been used as storehouses, and an underground chamber attached to Carlungie I was apparently used as a workshop. But some of the Angus souterrains, including Carlungie I, are so large that a primitive community could hardly require storage space on such a grand scale. As places of concealment they would be worse than useless: they were surrounded by surface structures which would be visible for miles, their roofs were normally above the level of the ground, and hostile raiders could not fail to notice them. They would be death-traps for all who took shelter in them. If they were not refuges, not dwellings and not primarily storehouses, what

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[25] *PSAS* LXVI (1931–32), 396; LXVII (1932–33), 362–88.

[26] *PSAS* VIII (1868–70), 104–9.

[27] *PSAS* I (1851–54), 213–7.

[28] Fragments of Samian ware have also been found at Bac Mhic Connain and Berie in the Hebrides. cf. *RCAMS* IX (1928), xliii.

[29] V. G. Childe, *The Prehistory of Scotland*, London 1935, pp. 183, 212–5.

[30] Despite a curious set of skulls found in the souterrain at Rennibister but apparently introduced at some date after the souterrain had been abandoned. See *PSAS* LXI (1926–27), 296–317; *RCAMS* XII (1946), ii, 93–4. See also the report on Sandquoy in *RCAMS* XII (1946), ii, 167.

then was their function ? There is some evidence that they were designed to house animals, perhaps at night, perhaps during the winter. They may have had more than one function, but the suggestion that they were used as byres for sheep and cattle is supported by certain structural features revealed at Ardestie and Carlungie I, and on general grounds there is much to recommend it[31]. It goes without saying that no-one ever herded cows into the souterrain at Ardross or into the northern souterrains. Their steps, sharp corners and low narrow passages make the idea fantastic. But it has been sufficiently stressed that conclusions reached about the plan, date, function and origin of one group of souterrains need not apply to the others.

Finally, who were the people who built the souterrains ? Whether or not the various groups of souterrain-builders are related to each other, where they came from and how they reached Scotland are questions more likely to be answered by the approach referred to above[32]. They fall outside the scope of this article. But we may consider here if the souterrain-builders, or any of them, can be brought into relation with known historical peoples such as the Picts.

The problems that surround the Picts have recently been discussed at length[33]. The name *Picti* is used from A.D. 297 onwards to cover an agglomeration of peoples who lived in what is now Scotland north of the Antonine Wall. They developed a political unity, expressed by the Pictish kingdom, and they were recognized as distinct from the Scots, the Britons and the Northumbrians. The Picts are a historical conception in the sense that they appear only in historical sources, though obviously they must also have an archaeological context. The souterrain-builders, on the other hand, are an archaeological conception, though it is clear that from the 1st century onwards they must have what may be called a historical background. The question raised here is whether or not the archaeologist's souterrain-builders are related to the historian's Picts. Or, if the Picts are those peoples who lived in the known Pictish area during the known Pictish period (297–843), then where and how do the souterrain-builders come into the historical picture ?

Ptolemy mentions a number of peoples who lived in Scotland during the period when the souterrains of Angus were in use. It does not follow, however, that the *Venicones* of Ptolemy are the souterrain-builders of Angus, even if the two peoples are contemporary, for we do not know how many separate peoples, intermingled or politically superimposed upon each other, lived in Angus in the 2nd century. One could leap a logical chasm and assume that Ptolemy's *Venicones* are the souterrain-builders of Angus, but it would be an assumption not at present justified by the evidence and, moreover, in conflict with certain known patterns of distribution. In any case, Ptolemy's peoples are not strictly Picts within the terms of our definition. Those who lived within the Pictish area probably represent peoples who were later called Picts, and we may therefore describe them as ' proto-Picts '.

If it could be shown that the souterrains of Angus were in use during the 4th century, we could include their builders under the name Picts. But it has not yet been satisfactorily proved that any souterrain was in use as late as the Pictish period. If it could be shown that the descendants of the men who built the souterrains were Picts, we could

[31] This possibility, with the evidence for and against it, is fully discussed in the excavation reports (forthcoming) of Ardestie and Carlungie I.

[32] See above, p. 226.

[33] By R. W. Feachem, K. H. Jackson, Stuart Piggott, R. B. K. Stevenson and F. T Wainwright in *The Problem of the Picts* (in the press).

then properly describe the souterrain-builders as ' proto-Picts '. It is possible to produce evidence of such a relationship, at least for the souterrain-builders of Angus. At Ardestie and Carlungie I it was found that the sites continued to be used, without a break in the sequence of occupation, after the souterrains themselves had been demolished. The people who lived on these sites in the post-souterrain phase were presumably the children and grandchildren of souterrain-builders. Strictly we should give them some such name as ' post-souterrain people ', but the name is less important than the fact that they lived in the Pictish area during the Pictish period. By definition, therefore, they are Picts, and the souterrain-builders are ' proto-Picts '.

It will be understood that the ' post-souterrain people ' of Angus are only one of the racial and/or political elements covered by the name *Picti*. But, if the evidence has been interpreted correctly, one element in the Pictish complex has been isolated and labelled. And, with the same qualification, the souterrain-builders themselves have been brought into the orbit of history and given the semi-historical label ' proto-Picts '. What has been said applies, of course, only to the souterrain-builders of Angus, though there is no reason to doubt that other groups of souterrain-builders occupy the same or a similar position in relation to the historical Picts.

Notes and News

A SECOND INSCRIBED CLAY TABLET FROM ENKOMI

The object of these notes is to present to the readers of ANTIQUITY the important fragmentary tablet of baked clay (PLATES IV–V and FIGS. 1–3) discovered in the course of excavations which I had conducted last summer at Enkomi on behalf of the Department of Antiquities[1]. This is the second tablet discovered by these excavations, the first having been unearthed last year in the area adjoining the North sector of the city wall (see ANTIQUITY, pp. 103 ff and pl. IV).

This year's tablet was found unexpectedly after the closing down of the excavations during supplementary work in the Area of the ' Temple ' excavated by me for the Department in previous years. It was in this area that we discovered in 1948 in a room of an ashlar building the remarkable bronze statue of a male god wearing a headdress adorned with bull's horns (*Illustrated London News*, 27 August, 1949, pp. 316–7 ; *J.H.S.*, LXX, p. 14 ; *Fasti Archaeologici*, IV, 1817 and fig. 30). The tablet was found in a room in the Northwest part of the ' temple ' complex on floor VI counting from the top. On that floor there was a slightly raised floor of lime-mortar presumably used as a hearth and built on a layer of sherds which evidently served as a foundation for the hearth floor. It was among those sherds that we found the tablet.

This is only a fragment. The original size of the tablet can only be guessed from the thickness of the existing fragment. It is observed that the broken edge at the right lower corner is the thickest part and that the tablet thins off towards the upper horizontal and left hand vertical edges. This means that there was originally at least as much width as the existing one which is 9–9.5 cm. (max.). This would give a total of 18 cm. for the total width of the tablet. The length is more difficult to estimate but judging from the proportions of large tablets found in Crete and the Greek Mainland (Pylos, Mycenae) the length is usually much greater than the width, the general outline being rectangular.

The suggestion that the original tablet may have been twice as wide as the maximum existing width seems to be strengthened by the following observation. There exists very near the right hand lower (broken) edge a vertical incision a little over 1 cm. in length. This incision has any meaning only if we assume that it ran all the length of the tablet from top to bottom. This would suggest that the engraved line divided the field into two equal columns which accords with my calculation of the original width as judged from the thickness of the tablet.

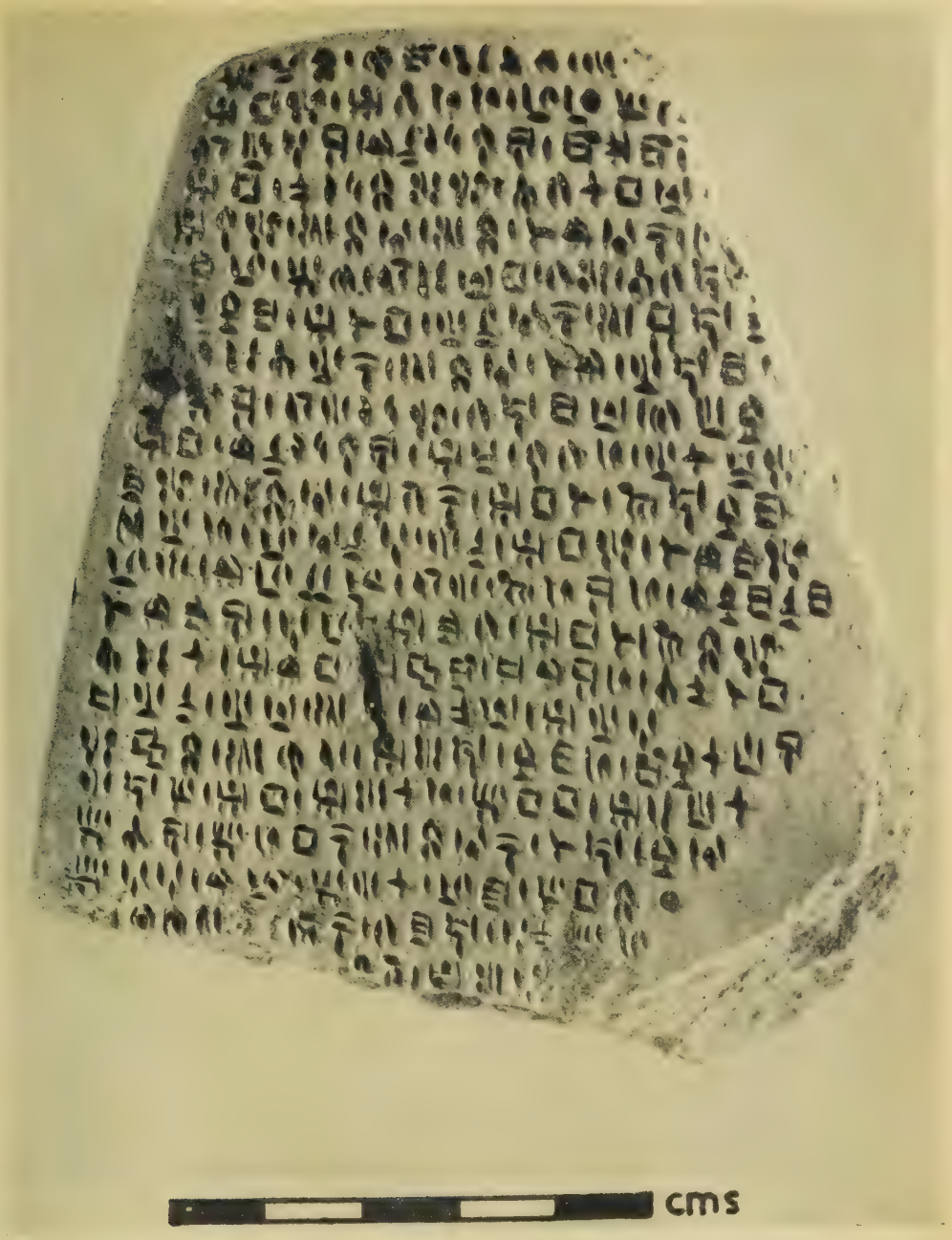
The ' obverse ' of the tablet which I assume to be the best preserved face is completely flat while the ' reverse ' is slightly curved. This is the face which touched the ground a fact which is of course responsible for the wearing observable on it.

The text on the ' obverse ' comprises 22 lines. Of these lines 11–21 are complete and end at a small distance from the engraved line mentioned above which, I suppose, ran along the whole length of the tablet. The ' reverse ' comprises 16 lines of very unequal preservation. It is observed that the text here should be read ' up-side-down ' i.e. in a fashion reverse to that of the obverse. This is proved by the direction of the

[1] As in the previous years these excavations form part of a joint expedition to Enkomi : French Archaeological Mission under Dr Cl. F. A. Schaeffer and Department of Antiquities. The Director of the latter Mr A. H. S. Megaw gave me, as always, valuable support.

FIG. 1. OBVERSE: 'NORMALIZED' TRANSCRIPTION OF THE ENKOMI TABLET

Each line contains 4–5 words, divided by short vertical strokes. Note the 5-letter word repeated on lines 3 and 10; the 3-letter word on lines 5, 8 and 11; and the 2-letter word on lines 4, 10 and 18. The value of the signs is probably syllabic



INSCRIBED CLAY TABLET FROM ENKOMI (OBVERSE)

facing p. 234

PLATE V

INSCRIBED CLAY TABLET FROM ENKOMI (REVERSE)

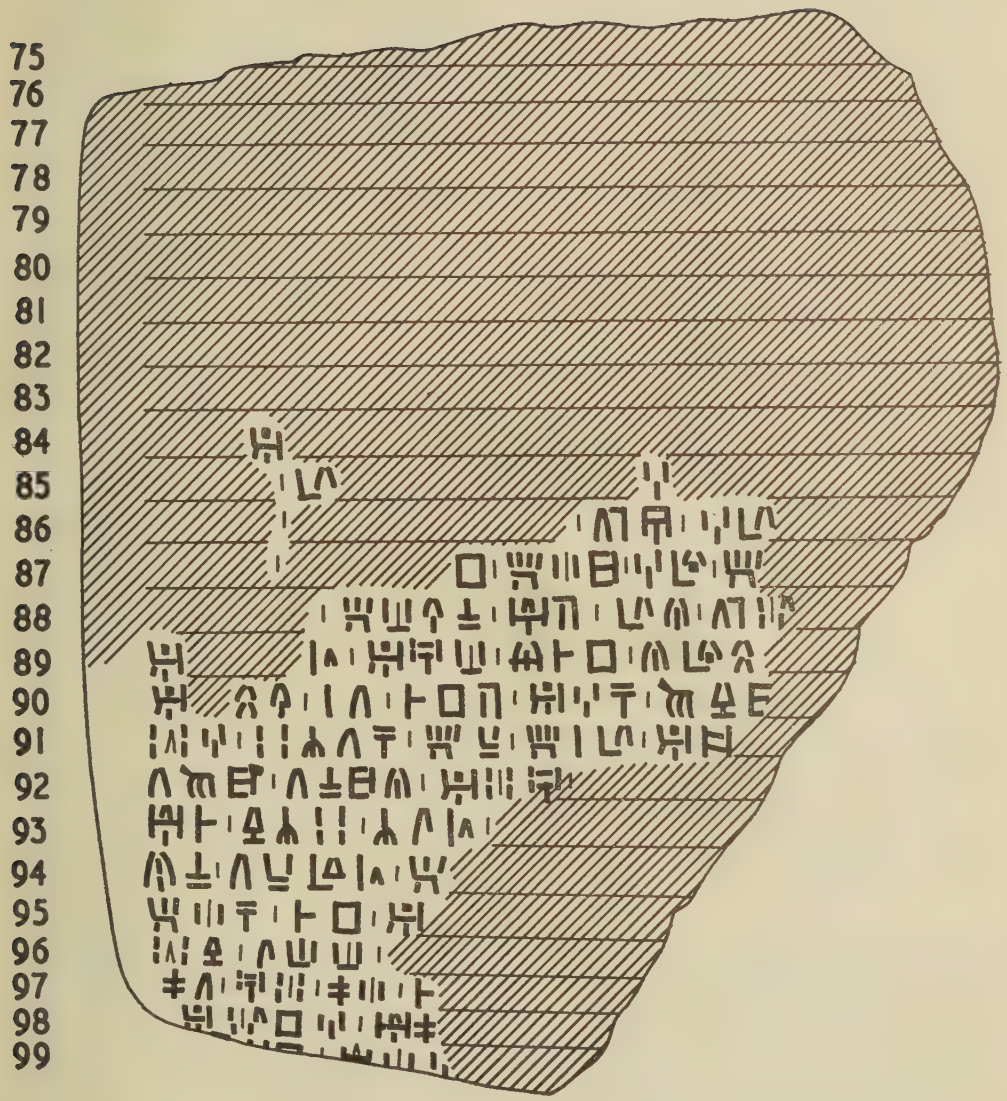


Fig. 2. REVERSE OF THE ENKOMI TABLET

signs and is further confirmed by the fact that the two last lines went over the edge of the tablet as if the scribe had run short of space and thus used the edges to end his text.

The script is evidently Cypro-Minoan and confirms the suggestion put forward by Sir John Myres[2] in respect of the first fragmentary tablet discovered in our excavations at Enkomi last year. It was engraved in the wet clay with a pointed tool producing short strokes similar to those on some of the Enkomi clay balls. The tablet was then

Fig. 3. SIGN-LIST FOR ENKOMI TABLET NO. 2, WITH NUMBER OF RECOGNIZABLE OCCURRENCES
Note high frequency of sign 55, purely initial

baked hard. The result of baking is apparent in the hardness of the clay and also in the colour which on the reverse turned pink-red while on the obverse it is yellow-white.[3]

As already mentioned the object of these notes is simply to announce the discovery[4] and in view of the short time elapsed between the latter and the writing of these notes no detailed account of the script and other relevant problems could be prepared[5].

[2] Antiquity, June 1953, p. 105.

[3] That the baking of the tablet was intentional and not the result of the fact that it was placed under a hearth floor is, I think, beyond doubt.

[4] It has also been announced in *Illustrated London News*, September 5, 1953, p. 342.

[5] Since this was written Mr Ventris has most kindly made drawings of both sides of the tablet and composed a signary to accompany this note. These appear as figs. 1–3. An additional photograph just received by Mr Ventris enables the signs of the last line of the reverse (No. 99) to be read as :— 41. 32. 32 | 56. 49. 52 ?.....

However the importance of this discovery is evident and the text which is the longest so far discovered in Cypro-Minoan, if ever deciphered will no doubt throw abundant light on the cultural history of Enkomi and of Cyprus*. It will also enhance the importance of Dr Schaeffer's discovery of the Bronze Age town of Enkomi.

The date of the tablet is given by painted sherds of the end of the 13th century, some of the Mycenaean IIIc style. If we remember that the tablet together with other sherds was used as foundation for a hearth floor and therefore it was a discard, we may assume that it is earlier than the last quarter of the 13th century B.C. How much earlier it is impossible to say but the context gives at least a *terminus ante quem*.

PORPHYRIOS DIKAIOS.

THE PICTISH SYMBOLS AT TRUSTY'S HILL, KIRKCUDBRIGHTSHIRE (PLATE VI)

Trusty's Hill lies about one mile from Gatehouse of Fleet in the tumbled foothills on the west side of the estuary. The hill falls steeply in most directions with two ridges running up towards the rounded summit. These ridges are crossed by small rock-cut ditches with slight inner banks, which lie at the foot of the steeper slopes. The summit is enclosed with a much destroyed rampart, which now shows as a broad grassy bank with a slight hollow on the inner side, where there are also traces of circular depressions some 15 feet across. The wall has produced some evidence of vitrifaction, though nothing is now visible on the surface. The entrance is on the southeast, where a track can be followed up the ridge and across one end of the outer bank and ditch. From here it runs up a hollow between two natural spurs and through a gap in the wall. This hollow, though natural in origin, has probably been scarped and improved. The rock face is exposed on the left side as one enters and has been used as a surface for the inscription of Pictish symbols [1].

The symbols, which are wrought in the customary pocked technique, are in three groups. Two are near the top of the exposed face, the third lies towards its base. The dexter group consists of a plain spectacle symbol crossed with a Z-shaped rod ; this rod has the terminals swollen into small ovals and the horizontal members enriched with pairs of pothook spirals, which appear to spring like shoots from the ovoid ends. The sinister group consists of a seahorse and a whetstone, the latter with elaborate scrolled terminals. At the base of the rock face is a circle with human features indicated ; from the top two spirals sprout like horns[2].

If we accept the outer banks and ditches as part of the original layout—and the balance of evidence points in this direction—the settlement on Trusty's Hill resembles the nuclear forts to which Mr R. B. K. Stevenson has recently drawn attention.[3] His

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* In a letter to me (dated 4 September) following the announcement in the *Illustrated London News*, Mr M. Ventris kindly gave me his first impressions of the tablet. He thinks that the tablet might perhaps contain a poem. This is suggested to Mr Ventris ' by the variation in the length of the lines which is some cases are so short that if the text was continuous room could be found for another word. On the other hand, the length of line fluctuates around an average, which makes it unlikely that the short lines are the end of subordinate sentences or paragraphs . . . Another possible indication of verse is the alternation in the last signs of lines 10–14 '.

[1] *Royal Commission on Ancient Monuments* : Kirkcudbrightshire, no. 13.

[2] Ibid, no. 14 ; the third symbol has been retouched in recent years, but the form is old.

[3] *Proc. Soc. Ant. Scotland*, LXXXIII, 186. Tynron Doon in the Parish of Tynron (*Royal Commission on Ancient Monuments*: Dumfriesshire, no. 609) is another example in the Southwest.

arguments in favour of a date in the earlier medieval period are reinforced by the occurrence of Pictish symbols on the rock face beside the entrance to the citadel on Trusty's Hill. Nothing in the layout of this site contradicts the proposed ascription, which may provisionally be accepted.

The discovery of a small number of characteristic symbols far outside the main Pictish area in Central and Eastern Scotland has a wider bearing on the chronology and purpose of these carvings. The anonymous fragment of a 12th century Life of St. Kentigern, written between 1147 and 1164, incorporates a pertinent story. It relates how King Leudon rode forth to seek vengeance on the swineherd whom he thought responsible for the seduction of his daughter, Thaney. ' Snatching up a javelin, he (i.e. the swineherd) tranfixed the king, throwing it upon him from behind by means of a thong. But the friends of the king, in the place where he fell, erected to his memory (lit. as a royal memorial) a great stone placing on top of it a smaller one carved (erexerunt in signum regale lapidem grandem, inposito illi desuper saxo minore arte cavato), which remaineth to this day at a distance of about one mile to the south of Mount Dumpelder[4] '.

Dumpelder is the ancient name of the hill on which stands the early settlement of the Votadini, now known as Traprain Law. The traditional occupation of this site by British rulers of the sub-Roman age has recently been confirmed by excavation and finds suggest that it was still inhabited under the Northumbrians. The excavations showed that the ' later rampart ' was thrown up when some time had elapsed during which the outer of the two ' earlier ramparts ' had fallen into disuse. Since the ' earlier rampart ' was itself erected in *c.* A.D. 300 or later this implies a sub-Roman occupation of the fortified settlement[5]. But we have no other record of a stone set up near a British fortress in memory of a British chieftain, nor does the siting of the surviving British memorial stones point to such a custom. It seems more probable that the story in the Anonymous fragment referred to a Pictish symbol stone, to which the name of King Leudon, the eponymous ruler of the Lothians, had become attached at the time when the Life, or its source, was composed.

Two other Pictish symbols stand in a similar relation to contemporary non-Pictish fortresses. The boar sculptured on the living rock at Dunadd, the capital of the Dalriada Scots[6], is a striking parallel to the symbols on the rock face at Trusty's Hill. The slab with a symbol found in use as a footbridge in Prince's Gardens, Edinburgh[7] must once have stood in the northern valley outside the settlement on Castle Rock, the Din Eidyn of the Gododdin poems[8], which was later taken over by the Angles of Northumbria. Thus three of the four Pictish symbols[9] recorded outside the main Pictish area are closely associated with non-Pictish fortified settlements, while there is reason to think that a fourth once stood in a similar relation to Traprain Law. The explanation given in the Anonymous Life of St. Kentigern—that the stone was erected to mark the spot where the king fell—may well be based on a genuine tradition. These stones should commemorate Pictish leaders, who fell in attacks on these fortresses. At Trusty's Hill and

[4] Vita Kentigerni auctore anonymo cap. VII (*Historians of Scotland*, v, 249) ; I have corrected an obvious error in the English translation (ibid, 131).

[5] For a summary see A. H. A. Hogg in *Aspects of Archaeology in Britain and Beyond*, 207.

[6] *Proc. Soc. Ant. Scotland*, LXXIV, pl. XV b.

[7] Romilly Allen, ' Early Christian Monuments of Scotland ', 421 ; cf. *Proc. Soc. Ant. Scotland*, LXXXIV, 207.

[8] ANTIQUITY, XIII, 25.

[9] I ignore the symbols on the terminal of a silver chain found at Whitecleugh, Lanarkshire, as this is a portable object.

Dunadd the attacks were clearly successful, as the symbols could only have been carved when the settlements were already in Pictish hands. At Edinburgh and Traprain Law there is no such proof and the leaders may well have fallen in attacks which were beaten off.

The only other symbol which need be considered in this connection is the fish recently recorded by Mr Feacham at Borthwick Mains, near Hawick in Roxburghshire[10]. I know of no contemporary settlement, to which this might be related, but this does not necessarily invalidate the argument as the stone might mark the death of a leader slain in some skirmish.

This theory, if accepted, has certain chronological implications. The boar at Dunadd and the fish at Borthwick belong to the earliest class of Pictish symbols; those at Trusty's Hill and from Edinburgh are good examples of Class II. Historically Dunadd is the best documented of these sites. Founded by the Scots of Dalriada in the 5th century, it was besieged in 683[11] and was captured by the Picts in 736[12]. The first date would seem to indicate the *terminus post quem* for the carving of the boar and the second to be the more probable. In the Lowlands south of the Forth, the 7th century was a period of Northumbrian expansion, culminating in the empire of Ecgfrith and the establishment of the Bishopric at Abercorn in 681. Widespread Pictish raids such as are indicated by the symbols can be excluded during this period. The dating of symbols of Class II to the preceding age of British supremacy would create almost insuperable difficulties in the chronology of the Pictish symbol stones. It is to the period after the disaster at Nechtanesmere (685) that we must look. Ecgfrith was slain in this battle and his successor Aldfrith is said to have reorganized the kingdom within narrower bounds[13]. The account of Bede connects this disaster with the withdrawal of Bishop Trumwine from Abercorn. This implies a period when Pictish attacks south of the Forth were considered likely. To this age we should attribute the Pictish symbols in Southern Scotland and this attribution bears out the date suggested for the similar carving at Dunadd. On this evidence the transition from Class I to Class II of the Pictish symbols was taking place in the earlier part of the 8th century, a date which closely agrees with the conclusions reached on other grounds[14]. C. A. RALEGH RADFORD.

A POSSIBLE ROMAN SIGNAL STATION IN DEVON (PLATE VII)

During routine investigation of air photographs, the Archaeology Division of the Ordnance Survey recently discovered what may be a Roman signal station (PLATE VII, bottom left corner) on Stoke Hill which lies 1½ miles north of Exeter. The site falls on the north edge of 6 inch sheet Devonshire LXXX NW, it is in Exeter Co. Boro. and its National Grid Reference is SX(20)/9235 9532. About 500 yards NNE on the same hill Mr C. A. Ralegh Radford partially excavated an Iron Age Hill Fort in June 1935.

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[10] *Proc. Soc. Ant. Scotland*, LXXXIV, 206.

[11] *Annals of Ulster*, I, 134; cf. Anderson, 191.

[12] 'Annals of Tighernach' (*Rev. celt.*, XVII, 239); cf. Anderson, 232.

[13] *Bedae Historia ecclesiastica*, IV, 24 (Plummer, I, 266–7).

[14] For the classification here used, see ANTIQUITY, XVI, 1. The theory set forward in this note was inspired by the striking position of the sculptures at Trusty's Hill, which I visited in July 1949, with Lady M'Culloch, whose husband Sir Andrew M'Culloch, of Ardwall, owns the site. It arose as we sat and talked of the 'small, dark, crooked' people of the Picts, who had left these lonely memorials so far from their homeland. I am much indebted to Lady M'Culloch, who brought me to this site, and to Dr O. G. S. Crawford, whose excellent photographs (PLATE VI) illustrate these important carvings.

Stoke Hill is a shallow saddle back, rising to over 500 feet O.D., at its two extremes. The construction of the signal station on the southern and lower end provided direct visual access to Exeter. Apart from a short arc to the NE the site commands the countryside in all directions for many miles. Unfortunately the hill top has been ploughed and all that can now be seen (March '53) is the remains of the outside bank which has a great deal of shillet in its construction. The whole area is liberally strewn with Medieval and later pottery, but nothing of Roman origin was found during thirty minutes' search.

It is probable that the external curvilinear part of the earthwork, some 450 feet in diameter, consisted of a bank and ditch with the ditch inside, and a possible entrance on the north. The central feature was a squarish single bank and ditch with 130 feet sides, with the ditch probably on the inside. It is the same shape as Old Burrow (Devon 3 NE (SS21)/7880 4934), another Roman signal station on the north Devon coast, but the plan differs considerably. The ditches in Old Burrow are on the outside and the internal defence consists of a double bank and ditch.

If there was ever any stone in the construction it has now disappeared. The light bands of the earthwork are not caused by wall footings underlying growing crops, but by the concentration of shillet which in the mass has the effect of flattening the ploughed land, cutting down shadow and thus reflecting more light.

The tenant at Stokehill Farm was interested and cooperative. Although oats had been sown in the field a fortnight previously, no objection was raised to the digging of two small, but unsuccessful trial holes on the line of the central earthwork in a search for wall footings.

There must be more signal stations in the southwest awaiting discovery on the normal 1/10,000 air cover. The investigation will be continued until all the probable areas have been examined both on the air photographs and on the ground. JAMES FOX.

CONICAL STRAW HUTS IN THE SUDAN

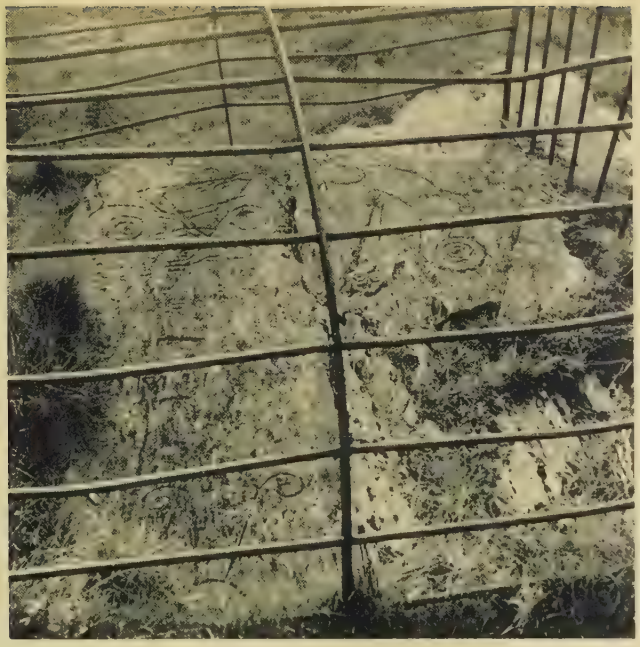
In a most interesting and stimulating chapter of his book, *Archaeology in the Field*, Dr O. G. S. Crawford discusses the grass or straw huts with conical roofs that exist nowadays in Darfur and the Blue Nile Provinces of the Anglo-Egyptian Sudan. Dr Crawford thinks, and quite rightly, that very few of these huts are to be seen to the north of Sennar in the Blue Nile Province.

The purpose of this article is to discuss the origin of such huts, how they developed in course of time, and the reason or reasons for their scarcity in villages north of Sennar within the irrigated area, whereas they are still to be found in good numbers in villages on the east bank of the Blue Nile, north of Sennar. Special reference is made to villages in Rufaa District with a view to explaining the method of building huts and the expenses thus incurred.

The writer does not pretend to be an authority in these matters, but only wishes to express certain views which might be of use to research workers interested in the subject. It is felt that the absence of illustrations is a handicap, but it is inevitable as the writer is at the time of writing thousands of miles away from the Sudan.

Origin of straw huts with conical roofs.

This type of hut would appear to have developed from the simple hut of woollen rugs or *bursh* matting still in use by nomadic tribes all over the Sudan. A long time ago certain sections of the community thought of exploiting the fertile land and of leading a settled life. The simple hut of rugs was suitable to wandering nomads being portable and easy to re-erect. It did not suit the purpose of settled groups who wanted a spacious



TRUSTY'S HILL: SYMBOL STONE

TRUSTY'S HILL: DETAIL OF WHETSTONE AND SEAHORSE

SIGNAL STATION, STOKE HILL, NEAR EXETER
(bottom left corner)

CROP-SITE IN FRANCE
Ph. M. Bret, *pilot* M. Gaulard

dwelling to live in that kept away rain water. Straw or *durrah* stalks and wood were readily available, people started to build their *tukls* (huts) with conical roofs which would drain away rain water during the rainy season. The huts themselves afforded more space for living and for storing the produce. Goats and sheep are a menace and should be kept away from the straw walls of huts not only because they eat the straw, but also because they rub their skins on the thatch which might lean inward under their weight. Thorny bushes would do for this, but cow dung has the extra advantage of keeping huts warm during the winter. The walls were therefore plastered with cow dung in and out and so was the floor which was cracked. That gave the people in the long run the idea of building mud walls for their huts wherever circumstances permitted. Then those mud walls developed into complete circular houses with flat roofs and gutters for drainage.

Rectangular mud houses with flat roofs must have evolved from the *dahr el tor* (bull's back or hump), an elaborate form of straw hut with rectangular walls and sloping roof.

The scarcity of straw huts with conical roofs in the Gezira, north of Sennar, as opposed to the abundance of them on the East Bank outside the irrigated area, demands an explanation. The technique of building circular straw huts with conical roofs is dying out in villages within the irrigated area, to the north of Sennar, except for cantonments inhabited by westerners who come from Darfur and French Equatorial Africa to seek employment as labourers. Perhaps this is due to economic and social reasons :—

1. The Gezira tenant with surplus money from the cotton trade (which is still lucrative despite the present drop in cotton prices) finds it within his financial capacity to replace his old habitat (the straw hut) by a modern red brick house with corrugated iron roofing, or with a mud brick house with *baladi* (native) roofing and red brick parapet.

2. The old problem of obtaining an ample supply of water to enable the building of mud or brick houses has now been solved by the net-work of canals running to every single village, from which water could be taken with no great trouble.

3. Tenants have developed a tendency to build red or mud brick houses through imitating their neighbours who live in big centres on the Nile. No attention is being paid to the unsuitability of the cracking cotton soil for rigid foundations.

On the east bank of the Blue Nile, on the contrary, many villages are to be seen, especially in agrarian centres, where the majority of the houses are circular straw huts with conical roofs and sometimes mud walls. This, of course, is entirely due to economic factors on the one hand, and to the fact that water is still as precious as gold, villages having to rely on deep wells in the main, or on stored rain water which lasts a few months only. Villages near the river have a fair number of rectangular or circular mud houses.

It is interesting to explain the procedure adopted when a villager decides to build a house for himself, normally with the intention of getting married. As a preliminary, a suitable site is chosen and word is passed that Mr so and so wants to build a house or preferably a hut. A meeting is soon held somewhere in the village and a date is fixed for collecting the building materials. On the fixed date villagers go out in two parties one to collect wood and the other to bring straw or *durrah* stalks. The materials are now on the site, another day is fixed for starting. A limited number comes up this time and they build the frame of the conical roof first and dig holes for the V-shaped wooden pillars or supports the length of which varies between 175 and 200 cms. As soon as the frame, holes and supports are ready, a date is fixed for lifting up the frame on the now partly erected pillars (the rest are erected after lifting the roof frame). More villagers come

for the occasion and in no time the frame of the whole hut is ready. A final date is then fixed for thatching the hut, a process to be attended to by 4 to 6 men. The circular walls are thatched first and then the conical roof follows starting from the bottom and working upwards towards the top, which is, as a final touch, crowned with an empty beer bottle or with an earthenware coffee pot, perhaps as a measure against the evil eye. It normally takes them two days to finish. On the final day these 4 or 6 men are given a meal, tea and coffee. The whole expense would under no circumstances exceed 50 to 70 piastres (10 to 14*s*.). The rest of the villagers having to wait the happy occasion of the actual marriage when everybody is entertained. When marriage takes place, a branch of *zaaf* (palm fibre) is placed alongside the bottle or coffee pot on the peak of the hut to tell of the occasion. An earth bank 1 foot high is built round the bottom of the walls to protect the hut from floods during the rainy season and that corresponds with Dr Crawford's stone circles that he saw in Darfur.

This shows that the spirit of co-operation and mutual work still exists in a community not distracted from ancient traditions by traits of modern civilization which have a strong appeal to the mundane generation in which we live. This, I am inclined to regard, as ' Past in the Present ', or a surviving relic of the past. SADIK EL NUR.

A CROP-SITE IN FRANCE

From the very first days of archaeological air-photography it has been obvious that the soil and vegetation of France was favourable for revealing crop-sites, but we have had to wait just 30 years for one to be discovered. The fine concentric circles on PLATE VIII are near the village of Villenauxe-la-Petite (Seine-et-Marne). The oblique air-photograph here published first appeared in *Revue Archéologique de l'Est et du Centre-Est*, Tome III, fasc. 4 (Oct.-Dec. 1952), p. 254, plate 4. We wish to thank M. Paul Lebel for the loan of his block from which our PLATE VIII has been printed, and MM. Bret and Gaulard, photographer and pilot respectively, for permission to republish it.

The larger circle is about 120 metres in diameter, and the black band representing the ditch about 1 m. 80 wide ; the dimensions of the inner circle are 90 m. and 2 m. 50. Both circles are said to be uninterrupted, unlike their nearest parallel, at Dorchester, Oxon*, which has two opposed gaps. (A gap shown on the left hand side in the illustration may therefore be illusory). Midway between the French circles can be seen faint irregular traces of a third ditch. M. Lebel thought he could detect traces of post-holes on the photographic print, which I have not seen, the inner area has several irregular dark patches, denoting disturbance of the soil. Excavations directed by M. Pierre Parruzot were to take place during last summer and autumn, on behalf of three local archaeological societies.

The literature of the subject is considerable. References will be found in Prof. Graham Clark's article (*Proc. Preh. Soc.* II, 1936, 23 ff.) and in his book *Prehistoric England* (Batsford, 1940, Chapter 9), and in Mr R. J. C. Atkinson's ' Excavations at Dorchester, Oxon ', First Report, 1951, pp. 81–107 (Ashmolean Museum, Oxford).

O.G.S.C.

NEW LIGHT ON EARLY MAN IN AFRICA

Of particular importance to African prehistorians is the recent discovery, announced by Professor van Riet Lowe in the June number of the *South African Archaeological Bulletin*, of pebble tools in the cemented top of the Basal Older Gravels of the Vaal

* For which see ANTIQUITY I, 1927, 469.

River. These Basal Older Gravels, which are highly calcified, had previously yielded no artifacts and were thought to be sterile. The importance of the discovery lies in the fact that it puts back the presence of true man in South Africa into the end of the first or Kageran Pluvial, since the uncemented Older Gravels clearly represent the deposits of the Kamasian Pluvial proper. The tools themselves represent a late stage of the Kafuan Culture or an early Oldowan ; but the association of small flake tools of the type that has come to be associated with the name Hope Fountain (dare one say African Tayacian ?) seems to indicate that this intriguing flake-chopper industry is probably a manifestation of a phase of a culture rather than a separate culture in itself, since we now have it associated with the Pre-Chelles-Acheul and the Middle and the Late Acheulean, and even some early Middle Stone Age forms are also reminiscent of it. If the Kafuan industry from the resorted upper levels of these Basal Older Gravels is of developed form, then we may expect to find the earlier stages in the deeper levels of these Gravels ; which poses the intriguing problem : Was true man contemporary with the Australopithecine man-apes in the later part of the Lower Pleistocene ? Or perhaps even, were these primitive pebble tools made by the Australopithecine himself ? As Professor van Riet Lowe has aptly stated, these discoveries open up a new approach to the origin of true man himself as distinct from the man-apes, ' a vista that should bring us nearer and ever nearer a fuller appreciation not only of man's earliest recognizable attempts to fashion tools of stone, but also more accurately to determine the time-horizon on which he made these attempts '.

J. Desmond Clark.

Reviews

LA DÉCOUVERTE DU PASSÉ : PROGRÈS RÉCENTS ET TECHNIQUES NOUVELLES EN PRÉHISTOIRE ET EN ARCHÉOLOGIE. *Edited by* A. LAMING. *Paris, A. and J. Picard,* 1952. *pp.* 363. *Price,* 1,900 *fr.*

This book deals primarily with certain of the archaeological techniques which have been invented or exploited within the last thirty or forty years, ranging from air-photography to dendrochronology and the magnetic dating of pottery. It is well written by a number of authors, of whom seven are French and four are English or American. In Great Britain much of its content is already sufficiently known through the writings of Crawford, Zeuner, Grahame Clark, Kenneth Oakley and others, but this concise presentation to a wider field is an encouraging sign. It is to be hoped that the basic skills which lie behind the special devices here described may now receive a similar attention from our French colleagues, and that French prehistory of the post-palaeolithic epochs may thereby begin in the foreseeable future to take a worthy place beside that of Germany, Holland and Britain.

The book is competently edited and integrated by A. Laming, who also contributes several of its chapters. He deals, for example, with the attempt to localize flints by determination of their constituent micro-organisms, and reaffirms the frustrating limitation of the method in that, whilst it indicates broad geological horizons, it fails to identify specific localities. By contrast, J. F. S. Stone is able to give a stimulating account of the successful work of the South-western Group of Museums and Art Galleries in the classification and localization of axes made from the igneous rocks of western Britain. He adds a very relevant plea for an equivalent petrographic survey of the French material, and an editorial appendix offers a vague hope that facilities may become available in the *Office de Documentation sur les Monuments historiques* in Paris. We can but watch and pray. The project is one in which international cooperation might usefully be sought, on the lines of the international committee which has recently been set up to prepare a survey of ancient glass. The availability of suitable French technicians is, however, an uncertain factor.

Other chapters deal with radiocarbon dating (by H. L. Movius), the fluorine test (cautiously expounded by Kenneth Oakley), pollen-analysis (by G. Lemée), the reconstruction of ancient metal techniques (by A. France-Lanord, with the prefatory confession that ' actuellement, c'est surtout à l'étranger que se poursuit l'étude des techniques anciennes '), the study of animal bones, particularly from a statistical standpoint (by A. Leroi-Gourhan), and an anonymous and relatively lengthy *exposé* of soil-analysis with special reference to climate. Of greater novelty is a statement by R. J. C. Atkinson—the fullest that has yet appeared in print—of his experience in recording buried features by registering the varying conductivity or resistivity of the soil to a current passed between two pairs of electrodes fixed and re-fixed in the ground along a given line. Atkinson used this method as long ago as 1946, and is himself responsible for the design of his commutator. On suitable soils, such as sand or fine gravel or other reasonably rockless earths, it yields satisfactory results to a depth of four feet, and the present reviewer has seen it in effective action at Dorchester, Oxon., on a prehistoric site which had been partially and somewhat vaguely located by air-photography. To a practised team it is speedy and roughly accurate, and all credit is due to Atkinson for exploiting it. But the occasions on which it is likely to be of cardinal use as distinct from an intriguing luxury

seem likely to be exceptional ; it remains essentially a technical *tour de force*. As such, it is at least more profitable archaeologically than are the various types of mine-detector, here described by the editor in a fashion which sufficiently reveals their inefficacy, unless to discover for a purblind relic-hunter ' coins and metallic beads, always difficult to distinguish when they are imbedded in their earthy matrix ' within a few inches of the surface.

In one way and another, the book, whilst covering familiar ground, also extends to some of the marginal lands of archaeological technique, and earns a place on the bookshelf. R.E.M.W.

ARMORICAN ART : a new and enlarged edition of the article published in the *Bull. Soc. Jersiaise*, 1937 ; *by* N. V. L. Rybot, *Soc. Jersiaise*, 9 *Pier road, Jersey*. *Price not stated but ascertained to be* 3*s*.

The sub-title of this brochure of 52 quarto pages is ' A study of the designs on the coins of the cache found at La Marquanderie in the parish of St. Brelade, Jersey, in 1935 '. It is published by the Société Jersiaise at the Jersey Museum, but no price is printed on the cover, and it is difficult to find the name of the author. The brochure contains a brief account of this remarkable find and a drawing of the coin-mass in its decayed bronze bowl ; also an account of the method adopted for cleaning the coins, and a ' census ' made in 1937 : the total number in the Museum is 10,547, the actual number well over 11,000.

Eight ' intruders ' apart, all the coins are of the same ' Armorican ' type ; Major Rybot divides the designs into four groups, based on the heads (obverses) of the coins. ' These ', he remarks, ' varied from almost natural portraiture (Group I) to less and least natural (II and III) ending in profiles of definitely unhuman character (Group IV) '.

The lack of any statement as to the date of the hoard or its historic significance emphasizes Major Rybot's single-minded approach : that of a student of art. He provides the reader with a hundred drawings, obverse and reverse, of the four Groups, each with a brief comment. He has, he thinks, recorded all the dies used that have variations other than minimal. For these drawings—31 in Group I, 11 in Group II, 30 in Group III, 15 in Group IV—he has from 850 to 6000 coins at his disposal, so is sure of having the full range of types ; more important, since no flan, he says, received a complete impression, he has ample material to piece together the complete pattern of every die that has individual character.

In these drawings and their accompanying text we see the work of a superb draughtsman, intensely interested in technique and pattern, and of a writer with a crisp style of ample technical range for his purpose. Acceptance of results attained in the manner described is only possible if the reader is convinced of the integrity of the author, and his competence in the field to which he limits himself. The reviewer is happily in this position.

The characteristics of the Armorican type in the hoard are of course dual. The obverse starts as a human head derived from a Greek original, but with the hair elaborately treated in a manner ' known nowhere else in the world '. It is familiar to most of us, but the reviewer feels that he has never *really* seen it before. The face slowly progresses into ' un-humanity ', acquiring minor features, beaded coils and scrolls, some of which grow out of the nose ; these then form—with the *detached* nose—a pattern in front of the face.

The design on the reverse, ultimately based on chariot and charioteer, begins, unlike the obverse, in a state of extreme decay ; there is a single pony in active movement,

surrounded by strange shapes, called by the author ' driver ', ' lash ', ' chariot ', and a boar in the exergue, constructed as it were out of match-sticks. There may also be a ' gate ', ' ladder ', or lyre. The author is frank in his remarks on this welter of bizarre forms : ' the art of these men jumps from sanity into an eccentricity that almost amounts to madness '. The ponies, however, are always equine despite their unnatural heads ; the boars are equally recognizable. Drivers have a plate to themselves ' so that they may be enjoyed as they deserve '.

Of the four groups, the first is the most agreeable, but most readers will find Group III the most entertaining ; its designers, says our author ' seem to have been light-hearted fellows who let their genius run wild in a riot of humorous experiments '. In propounding this view, he never asks why or how artists producing coins for their State authority could get so out-of-hand, and other criticisms are inevitable. The art approach, like any other, demands some synthesis, some comparative survey : Are any of the patterns met with in contemporary Celtic art of western Gaul ?—is one of the obvious questions a reader will put. Nothing of the sort is forthcoming ; the paper ends ' in the air ' on p. 45, being followed by a scientific report by the Royal Mint, on another hoard ! Nevertheless, the reader will surely consider that this is the way all barbaric coin types of any race that have any claim to being works of art should be studied, when the numismatists have had their say. We are told that the hoard is being examined numismatically in Paris, and referred to a preliminary account in Jacquetta Hawkes' *Archaeology of the Channel Islands*; we are also told that representative sets of coins have been sent by the Société Jersiase to the principal museums in Britain, and to Trinity College, Dublin. This will have been greatly appreciated.

CYRIL FOX.

KHIROKITIA : Final Report on the Excavation of a Neolithic Settlement in Cyprus on behalf of the Department of Antiquities, 1936–1946, *by* PORPHYRIOS DIKAIOS, *pp.* 447+CLII *plates ; Geoffrey Cumberlege, Oxford University Press*, 1953. £8 8*s* 0*d.*

The site well deserves the truly symptuous publication given it by the Government of Cyprus and Oxford University Press. It is not only the earliest human settlement hitherto identified in the island ; it is also one of the four or five sites now known which illustrate that ' pre-pottery neolithic ' phase, the importance of which the Editor has rightly emphasized in a recent number of ANTIQUITY. It has moreover yielded remains of Stone Age architecture comparable to Skara Brae in completeness, an unusually large and complete set of brachycranial skulls and the earliest known cases of artificial cranial deformation, and a varied set of stone vessels of astonishing technical excellence.

The site is a promontory rising steeply 60 m. above a loop of the river Maroniou. No remains have been found on the summit, I suspect owing only to denudation. On the flanks of the neck, despite the still steep slope, soil and debris washed down from the crest have preserved the circular buildings, termed ' tholoi ' here, so well that their walls are in places still standing to a height of 2.30 m. The walls are built of boulders, fetched from the torrent, supplemented by and supporting a domical superstructure of mud brick. Seven tholoi, classed as ' large ', measure internally 4.5 to 6.5 m. in diameter ; the majority are only 2 to 3 m. across. The interiors even of the large tholoi seem uncomfortably cramped ; three are encumbered with pairs of pillars, each measuring ca. 3 × 0.7 m. which Dikaios plausibly suggests served to support a raised wooden platform over half the chamber. Yet most of the small, and three of the large tholoi, contained hearths and other indications of domestic use. But some small tholoi seem to have served as kitchens or workshops for adjacent large ones ; one of the latter was connected with its ' out-buildings ' by a verandah or passage, roofed with thatch, supported on rafters. At the

same time burials occur under the floors of most tholoi. The whole excavated area is divided by a curious structure looking like a wall, but now called the *main road* (author's italics) cutting across the contours. Tholoi are distributed evenly on both sides of it, and its surface is certainly conveniently smooth. Though in places the gradient is as steep as 1 in 3, the excavator believes it was the prepared route by which the villagers carried up from the river the stones for building their houses, water for domestic use and so on. Straight joints in its boulder masonry patently reveal both vertical and lateral enlargements.

Indeed the site must have been occupied over many generations. The extant tholoi have frequently been rebuilt, and the lower layers, where reached, prove to be studded with the ghostly remains of still earlier tholoi the walls of which had been plundered to provide stone for later buildings. Within the tholoi themselves numerous stamped earth floors can be distinguished (they are numbered from the top downwards in the report). Some of these floors sloped at an alarming angle ; in tholos XIX, floor II, which carried a hearth and through which three graves had been dug before its replacement by floor I, sloped down 1.2 m. in 6.3 m. across the tholos in one direction ! Remains of other floors came to light beneath the foundations of several tholoi, where excavation was carried down to bedrock. So within the area of tholos X, 17 floors were distinguished ; thirteen of these belonged to four recognizable superimposed tholoi, four underlay any surviving foundations ; but even the lowest of these lay on a deposit of earth ' mixed with animals' bones and bits of charcoal '.

The need for preserving for posterity the remarkably complete architectural remains at Khirokitia, as at Skara Brae, prevented the excavator from examining intensively the deeper layers or from attempting to follow out continuous layers over the whole area. Indeed owing to the accidented and almost precipitous nature of the terrain, and to the disturbances inevitably involved in reconstructing or replacing stone buildings, it is most unlikely that continuous occupation horizons, such as may be expected in a tell composed of the ruins of buildings constructed mainly of mud brick or other perishable material, ever existed at Khirokitia. Still by correlating the levels of adjacent foundations, phases in the construction of the *main road* and certain changes in the prevailing architectural fashion, Dr Dikaios has succeeded in distributing the various tholoi, their floors and the relics they contain over three main ' periods '. Large tholoi seem to belong exclusively to the last, period III.

No reliable type-fossils can be recognized to distinguish the several periods, though relics were very abundant and have been minutely classified by the author with reference to the stratigraphical position of each specimen. True pottery was confined to the latest levels. Indeed in only one tholos were any sherds found and those on its latest floor ; all the rest come from superficial deposits outside the tholoi. On the other hand, at one point under tholos III, fragments of baked clay vessels were collected from deposits reliably attributable to period I. But the material from which these vessels were shaped is a relatively pure clay, ' similar to that used in the lining of pits in the floors of tholoi ' and lacking any temper ; in other words it is pottery only in a chemical, but not in a practical, sense and does not invalidate Khirokitia's claim to the title ' pre-pottery '. That is confirmed positively by the large numbers and—particularly in period II—superb workmanship of stone vessels. These together with vessels of wood, basketry and stitched skins that have perished but can, as Dikaios points out, be inferred from the shapes or decorations of the surviving stone vases, took the place of pots ; an apparent decline in the quality of the stone ware in period III would then be a counterpart of the incipient use of pottery in that phase. Many are decorated with incised or raised patterns ;

some even have bridge-spouts recalling Minoan and Maltese vases. But stone bowls are immensely more durable than pots and are not likely to be left lying about on the floors of abandoned dwellings, but rather to be kept for subsequent use. Hence, though the author distinguishes nineteen varieties of bowl and records the levels of all specimens, no typological conclusions emerge save perhaps some decline in workmanship after period II.

It is the same with the remaining relics which have been no less finely classified, but just illustrate a classically neolithic assemblage. All the 108 ground stone celts described could be used as adze-blades ; the majority would not be suitable for axe-heads. Some were mounted, as in the Western neolithic of the Swiss lakes and South France, in antler sleeves ; for a stone celt mounted in what is here called a ' tool handle cut out of deer's antler ' was found at Kalavassos, presumably after Dikaios' manuscript went to the press, and is now exhibited in the Cyprus Museum. The early use in the East Mediterranean of this supposedly distinctive method of hafting is in fact not the least significant result of the excavations. Even more striking are the implications of Dr Angel's comprehensive report on the human skeletal material. Not only was the early neolithic population of Cyprus uniformly and extremely round-headed ; the brachycrany had been enhanced in 29 per cent of the males and 50 per cent of the females by artificial cranial deformation, ' apparently from the use of a cradle-board '—quite the earliest attested instance of this curious practice. Space permits only a mention of the use of imported obsidian, the figurines of stone and (one) of unbaked clay, varied stone beads, amulets and ' dress-fasteners '.

How old is this highly original culture ? The last chapter recapitulates the earlier phases in the cultural history of the island, summarizing and illustrating results of some still unpublished excavations and incidentally correcting Dr Schaeffer's remarks on Ambelikou. The author shows that the painted pottery, appearing in the last period at Khirokitia, is certainly older than the classical Cypriote Neolithic ware of Erimi and may well be separated therefrom by a whole stylistic period represented at Kalavassos A, Sotira and Troulli. He goes on to discuss with exhaustive erudition the relevant analogies—all rather remote—to the pottery and other remains from Khirokitia and later sites. But Cyprus, like Malta, remains stubbornly insular, and all I can say is that in view of the radio-carbon date for Jarmo, 3700 B.C. seems a modest estimate for Khirokitia I*.

The handsome publication includes a complete set of plans and sections ; all important relics are illustrated by photographs and line-drawings giving the requisite sectional and profile views ; the coloured frontispiece admirably reproduces the feel and texture of the combed ware from Khirokitia III. V. GORDON CHILDE.

THE SWORD FROM THE ROCK. *By* G. R. LEVY. *Faber and Faber*, 1953. 30*s*.

The Greeks had a straightforward word for saying one thing and meaning another—*allegoria*. The practice is immemorial and in poetry almost indispensable. In *The Gate of Horn* Miss Levy has already entertained and stimulated her readers ; now she returns along another line of enquiry. *The Sword from the Rock* is the token of the identity of an epic hero ; and the hero is the central figure in two of Miss Levy's categories of epic. There were heroes, of a sort, in the first category too, such as the *Epic of Creation*, but they are not men but gods, involved in a struggle among gods for power to dominate creation. In her second group the hero seeks something lost which through death he finds and enjoys. In the third the struggle is internal ; against a background of

*Jarmo's date is about 4750 B.C. Ed.

legend and even of historic reminiscence he loses and recovers his own soul, as Achilles does in the *Iliad*. Limited though the repertoire of ancient epic is, there is room here for endless ' allegory '. Miss Levy has wide scholarship, imaginative sympathy and great charm of presentation. Readers will vary in their judgment, how much she has proved among the comparisons—some of them surprising—that she displays. But they will take back with them to the epic of their choice new lights and occasions of delight.

The excuse for discussing such a book here is that Miss Levy makes considerable use of archaeological illustration, from Babylonian cylinders and Hittite reliefs onwards to Assyrian wall-reliefs. Not everyone will accept her interpretations entirely, but she has good authorities on her side. Would Indian sculpture tell a similar story ?

JOHN L. MYRES.

CORINTH : Results of the Excavations conducted by the American School of Archaeology at Athens. *Vol.* XII : the minor objects, *by* GLADYS R. DAVIDSON : XIV, 366 *pages*, 148 *plates, and text figures as well. Princeton, N.J.*, 1952.

Here is a mine of valuable material in many branches of Greek art and industry ; figurines, metal statuettes, vessels and furniture, including locks and keys ; implements and instruments, arms and armour, jewellery and dress accessories, seals and stamps. Each object is fully described and many are figured. They cover all periods from archaic to Roman. There are full indices.

JOHN L. MYRES.

CORINTH (as above) : *Vol.* XV, *part ii.* The Potters' Quarter and Terracottas, *by* AGNES M. STILLWELL. 15 *dollars.*

The first volume of this description was published in 1948 and contained plans, architecture and whatever else was ready at that time. A third volume will complete the story. This one contains a wonderful series of terracottas, vases and other objects of clay, covering all periods of the site. A separate section is given to lamps of all periods. There are copious indices.

JOHN L. MYRES.

CHING-TÊ-CHÊN T'AO LU, or Notes on the Potteries of Ching-tê-chên, translated with notes and an introduction. *By* GEOFFREY R. SAYER, *pp.* XXIV, 139, 10 *by* 7 *in., London, Routledge and Kegan Paul*, 1951. *£2 2s. net.*

This is a scholarly and convincing translation of the notes of two Chinese writers, based on direct observation and literary sources, describing the organisation, techniques and wares of the Imperial porcelain factory and some other kilns, first published in 1815. It is a monument to a vast empirical craft, recording the terms used by the workmen themselves, often to the consternation of the modern chemist and the modern collector alike. The translator prefers literal versions to the substitution of modern technological and collectors' terms which risk distortion or false precision. No Chinese characters are inserted in the text. Julien's translation of 1856 and many later translated excerpts are rendered obsolete by Mr Sayer's loving rendering.

W.W.

INTRODUCTION TO ENGLISH FOLKLORE. *By* VIOLET ALFORD, *pp.* VIII, 164 ; 4 *plates*, 8*vo. G. Bell and Sons, Ltd., London*, 1952. *Price*, 12*s* 6*d.*

The study of folk-lore is comparatively new, and in consequence several of its terms (including ' folk-lore ' itself) are ill or variously defined. The Folk-Lore Society's official pronouncement is that folk-lore ' covers everything which makes part of the traditional mental equipment of the folk ' and includes ' the products of their inherited

or traditional skill'. We are told, furthermore, 'that since 1944 the work of the Society has been specifically extended to include folk-museums and the types of objects which these contain'.

The Society, however, does not venture on a precise definition of the term *folk* but states that the word *folk-lore* 'has established itself in several languages as the generic term under which are included the traditional institutions, beliefs, arts, customs, songs and sayings current among *backward peoples* or retained by *the less cultured classes* of more advanced peoples'. This statement cannot be accepted since in most languages *folk-lore* is not restricted to a description of the lore of 'the less cultured classes'. Even if it were, what then is culture and which are the less-cultured classes?

Miss Alford does not help us. She begins this book with the inadequate statement that 'folklore is a composite word meaning the knowledge of the common people. This word was composed in 1846 by an inconspicuous, side-whiskered gentleman, Mr W. J. Thoms and "folk" was understood to mean the unlettered'. The common people: the term has no meaning and its use is snobbish. Let us return to the 'Scope' of the Folk-Lore Society: 'Beliefs about the world of Nature, about human behaviour and things made by man; about a spirit world and man's relations with it; about magic and witchcraft; about ghosts and fairies; about spells, charms, amulets, luck and omens; about disease and death' are not confined to socially-inferior people or to any class, common or otherwise. There are probably more spells, charms and amulets amongst the socially-superior than in any other class. Indeed, a former President of the Folk-Lore Society (Lord Raglan) declared recently[1] that 'folk-lore has really nothing to do with the folk'. While I cannot accept all the implications of this statement—for example, that the folk are a class or section of the community—it contains a real truth, in that it recognizes that folk-lore is not merely 'the knowledge of the common people'. Miss Margaret Murray, the present President, is on firm ground when she speaks of folk-lore as 'the intimate life of *the people of every class* which is not recorded in history or in any other way'.[2] We must get rid of the idea that the study of folk-lore is a genteel form of slumming or the happy hunting-ground of antiquarians intent on discovering the 'common people' in the same way that the 19th-century English travellers 'discovered' Wales.

The founders of the journal *Folk-Lore* were more enlightened in this respect than some of their successors. 'Folk-lore' states the editor of Volume 1 (March 1890[3]) 'has now been extended to include the whole vast background of popular thought, feeling and usage, out of which and in contrast to which have been developed all the individual products of human activity which go to make up what is called History'. 'Popular thought, feeling and usage' and not the thought, feeling and usage of the common people only. Folk-lore is the lore of the people, of the complete community and not merely of that nebulous part of it which is from time to time patronized as 'the common people'.

Miss Alford has divided her book into seven chapters: What Folk-lore is, The Calendar, Village Seasonal Life, Dances and Drama, Songs, Tales and Magic. It will be realized therefore that only a part of the subject is discussed and that calendar folk-lore, dance, song and drama, subjects on which Miss Alford is a recognized authority, are the main themes of this work. The book is, of course, well-written but the interpolation of sayings and rhymes throughout a large part of the text irritates the reader. The nineteen illustrations are excellent.

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[1] *Journal of the Royal Society of Arts*, 1953, p. 711.
[2] Ibid. [3] *Folk-lore*, 1890, p. 1.

There are some inaccuracies. The Folk-Lore Society was founded in 1878 (not 1866). Miss Alford refers to ' Beltane in the Celtic tongue of Britain ' and to ' the Celtic Samain '. These are the *bealtaine* and *samhain* of the Gaelic tongues, terms unknown in the more considerable Celtic-speaking part of Britain (i.e. Wales).

As a descendant of folk who for centuries have dwelt ' in a dark valley ' in the west country where midwinter hill fires are still natural for solid practical reasons, one sentence in this book amused me. Here it is : ' With the faint ball sinking behind the great green hills of the West Country, dwellers in a dark valley may well feel some atavistic unease lest it should never mount the sky again and that some effort is called for to make sure that it does '. Is not this surely the kind of ' folk-lore explanation ' which brings ridicule on the whole study ?

IORWERTH C. PEATE.

THE NORTH AMERICAN BUFFALO : a critical study of the Species in its wild state. *By* FRANK GILBERT ROE. *Toronto University Press (London : Geoffrey Cumberlege)* 1951, *pp* VIII+957. *Price, 96s. net.*

The North American Buffalo, more accurately termed American Bison, has exercised a great and far-reaching influence upon the civilization of the North American continent, perhaps more vitally than any other single species in its indigenous home. It is the only known animal which ever occurred in such immense numbers in a geographical range which climatic and ecological characteristics made a natural home for a large white population. It furnished inexhaustible resources for the aboriginal population and exerted an enormous influence upon Indian character. It supplied him with food, clothing, bedding, shelter, fuel, tools, weapons (in part), household utilities, means for personal or ritualistic adornment, and even the outer ' ecclesiastical ' symbols of worship.

It is estimated that more than 50,000 Western Indians inhabited the plains area of North America and were mainly dependent upon the Bison until the U.S. Government began to support them by the payment of annuities and supplies of food and other necessities.

The present volume is an attempt to collect all the available evidence concerning the history of the American Bison from its first discovery by Europeans in 1530 to its extermination as a wild animal in the 1880's. It is by far the most comprehensive account that has ever been published and some idea of the work involved may be gathered from the fact that there are more than 3000 footnotes and a bibliography of more than 1000 titles. It is rather surprising to find that in spite of all that has been written on the subject exact information concerning the history of the Bison is difficult to obtain and there are innumerable discrepancies between the accounts of various writers. ' The countless millions that blackened the plains ' is considered to be an exaggeration but the numbers of hides shipped by railways in the middle of last century shows that these animals must have been extremely numerous. The author rejects the idea of vast seasonal migrations and is of the opinion that all the evidence indicates that the Bison's behaviour was very individualistic. The nomadic habits of the plains Indians would seem to be probably due to the necessity of following their supply of food, and there is an interesting chapter on the influence of the Bison environment on Indian mentality, which includes much evidence never before presented.

It is rather unfortunate that the records of the Hudson's Bay Company were not available to the author as these probably contain the most exact and important source of information concerning the American Bison, but it is doubtful whether the general conclusions would be affected by these records, and Mr Roe's book is likely to remain the standard reference work on the subject for a very long time.

EDWARD HINDLE.

TSUSHIMA. *By* S. Mizuno, T. Higuchi *and* T. Okazaki. *Archaeologia Orientalis, Series B. Vol.* VI. *Published by the Far Eastern Archaeological Society, Tokyo and Kyoto*, 1953. 72 *plates*, 129 *figures, charts and index. Text* 180 *pp.* (*Jap*). *English résumé*, 38 *pp.* 6.50 *dollars.*

This volume contains the results of the archaeological survey, carried out in 1948 under the leadership of Professor Umehara, of the island of Tsushima which lies between Korea and Japan proper. The island acted as a stepping stone between the mainland and Japan. Immigrants developed there first the neolithic *Jomon* and then the *Yayoi* types cultures as found in Japan. Sites of both types were discovered and are reported.

Throughout Japanese history Tsushima has been important as a cultural stepping stone, as a military outpost to defend Japan proper and as a centre of diplomacy in dealing with the Korean kingdoms. It is rich in remains dating from periods up to the 7th century A.D. Professor Umehara is too well known to need introduction, and the prodigious works of Professor Mizuno are rapidly establishing him among the foremost scholars in the field of Far Eastern archaeology.

This scholarly, well documented and beautifully produced volume serves to fill out a few of the many gaps in our knowledge of the pre-history and proto-history of the islands of Japan. W.W.

THE GREAT CHARTULARY OF GLASTONBURY. *Edited by* Dom Aelred Watkin. *Vol.* II : *pp.* XCI–CXCIV, 249–562. *Somerset Record Society, Vol.* LXIII (1948). *Frome* 1952. *Printed for subscribers only.*

When the first volume of Dom Aelred Watkin's edition of the Great Chartulary of Glastonbury was published in 1947*, it was announced that the work would be complete in two volumes. With the appearance of the second we learn that there will also be a third. The transcripts of deeds made available in Volume I are probably of greater interest to historians than to archaeologists and other scholars, but Volume II (which deals with Glastonbury properties in Somerset) and Volume III (which will deal with Glastonbury properties in other counties) will have a stronger and a more direct appeal for all students of topography. It is difficult to review Volume II apart from Volume III, for we shall not have an index to the whole work until the latter appears. A very full index is promised.

Most of the deeds in Volume II concern properties in and around Glastonbury, but there are smaller sections dealing with Meare, Shapwick, Moorlinch, Ashcott, Greinton and more than a couple of dozen other Somerset manors. In date they range from the Anglo-Saxon period to 1340, in or about which year the Great Chartulary was compiled. To the genealogist they will represent a fine quarry ; to the student of place-names they will represent a useful collection of Somerset minor names ; and to the local historian they will represent much valuable information not previously accessible in print. The student of monastic economy, too, will find much to interest him here, but this section of the chartulary throws less light on the organization of a great abbey than that which was published in Volume I. F. T. Wainwright.

* See Antiquity, XXIII, 224–5.

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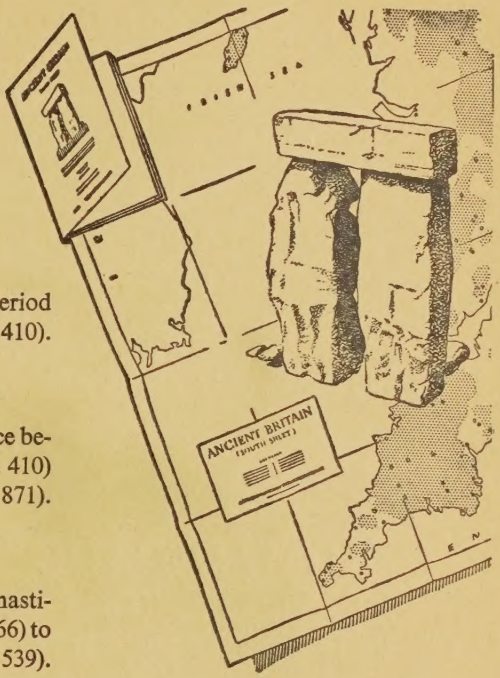

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